

Montana CWD Management:

- Introduction & Background
- Surveillance
- Response to a Detection
- Public Information Plan



Photo: Mike Hopper, Kansas Department of Wildlife, Parks and Tourism

A CWD-afflicted white-tailed deer. This animal will die soon.



Montana Fish, Wildlife and Parks CWD Action Team
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DRAFT

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CHAPTER 1.

INTRODUCTION AND BACKGROUND

This document, organized into four chapters, details the 2014 Decision Notice (Montana Fish, Wildlife and Parks 2014) regarding Montana Fish, Wildlife and Parks' (FWP) surveillance plan and response to any first or new detection of chronic wasting disease (CWD) in the state. It draws on existing management plans (Montana Fish, Wildlife and Parks 2005, 2013) but adds significant logistical details for executing the proposed plan. The plan herein described is not only based on FWP's past plans, but FWP's CWD Action Team (see page 9), which assembled it, reviewed other states' and provinces' plans, consulted with agency staff and other experts nationally and internationally, and reviewed the professional literature. Staff experience gained during the response to the first CWD detections in the wild in October and November 2017 also contributed to this plan. The resulting plan closely follows the Western Association of Fish and Wildlife Agencies (2017) recommendations.

The intent of previous FWP plans and this update are to: 1) manage any new detection of CWD where it has not been previously found in Montana, 2) limit the spread of CWD in Montana, 3) maintain or reduce the prevalence of CWD in specific locations once detected, and 4) improve communication and educational outreach on CWD with the public, other agencies, and within FWP.

Actions relating to the *prevention* of CWD arriving in Montana have been implemented since 2006. These actions may continue depending on the status of CWD in Montana and any advances concerning the prevention of transmission and potential treatment of CWD. Actions related to the *initial and long-term management* of CWD have been revised, and will be initiated in a localized area around any first or new detection of CWD in free-ranging Montana deer, elk, moose or caribou (cervids). Plans for *communication and outreach* aim to support FWP's goals of prevention and CWD management, and include ongoing efforts and a detailed communication plan to be implemented following any new detection of CWD in Montana's wild herds.

This plan, especially concerning surveillance for CWD and FWP's response to a detection, focuses on mule deer for several reasons:

1. Where mule deer, white-tailed deer, elk and moose overlap, mule deer tend to exhibit the highest prevalence of the four species.
2. Even if CWD is first detected in white-tailed deer, elk or moose, it is extremely likely that mule deer in the area are also infected, and likely at a higher prevalence.
3. Mule deer are well distributed across the state and serve as good sentinels for CWD detection.

When CWD is detected in elk or moose, FWP's response will likely still focus on mule deer as outlined in Chapter 3; elk and moose will be sampled dependent on each individual

circumstance. Response to a detection in a white-tailed deer in a whitetail-dominated system, such as in northwest Montana, would be the same as for mule deer outlined in Chapter 3.

This management plan has been assembled with the review and input of the Montana Department of Livestock (DoL) and the Department of Public Health and Human Services (DPHHS) to address concerns about possible effects on the agricultural community and human health.

This CWD management plan is adaptive; it is a living document that can be changed as needed. Changes will be made based on knowledge gained from both Montana's CWD management and ongoing programs in other states/provinces, the most effective approaches to CWD prevention and control that are identified, and on-the-ground knowledge gained through implementation. An internal FWP "CWD Action Team" will modify this plan through periodic review. In addition, a "CWD Citizen's Advisory Panel" consisting of public stakeholders from across the state representing wildlife and livestock perspectives, scientific and recreation interests, commerce and tourism, and local and state government was formed in Spring 2017. This panel provided input on this updated plan and assisted with communication and educational outreach efforts to the larger public.

AUTHORITY

Several sections of the Montana Code Annotated (MCA) grant FWP and the Fish and Wildlife Commission (Commission) the responsibility for the management of all wild, native cervids, including the following:

- MCA § 87-1-201(1) grants FWP the authority to "supervise all the wildlife, fish, game, game and nongame birds, waterfowl, and the game and fur-bearing animals of the state...."
- MCA § 87-1-301(1)(a) grants the Commission the authority to "shall set the policies for the protection, preservation, management, and propagation of the wildlife, fish, game, furbearers, waterfowl, nongame species, and endangered species of the state and for the fulfillment of all other responsibilities of the department related to fish and wildlife as provided by law...." Additionally, § 87-1-301(1)(b) provides that the Commission "shall establish the hunting, fishing, and trapping rules of the department."
- MCA § 87-1-304 further grants the Commission the authority to "fix seasons, bag limits, possession limits, and season limits" and to "open or close or shorten or lengthen seasons on any species of game...."

BACKGROUND

Biology, distribution, and population impacts

Chronic Wasting Disease (CWD) is a fatal neurologic disease of elk, deer, moose and caribou for which there is no known cure. It belongs to a group of diseases called transmissible spongiform

encephalopathies (TSEs), a group which also includes mad cow disease, or bovine spongiform encephalopathy, in cattle, scrapie in sheep and Creutzfeldt-Jakob disease in humans. The causative agent in TSEs is an abnormally folded prion protein (referred to as a “prion”) that causes normal cellular prion proteins found in the body to mis-fold into disease-causing forms (Prusiner 1998). Mis-folded prions accumulate in infected animals and cause neuronal cell death that eventually leads to fatal nerve and brain damage. CWD prions have been detected throughout the body of infected individuals, including the brain and central nervous system (Williams 2005), tonsils and lymph nodes (Sigurdson et al. 1999, O’Rourke et al. 2003), saliva and blood (Mathiason et al. 2006, Haley et al. 2011), the intestinal tract, bladder, urine and feces (Tamguney et al. 2009), muscle (Angers et al. 2006), fat (Race et al. 2009), and antler velvet (Angers et al. 2009). CWD is most easily and commonly transmitted by animal-to-animal contact but can also be transmitted by contact with a prion-contaminated environment, such as grass and soil. Infected animals shed prions in saliva, feces, and urine for most of the course of their infection, and via bodily tissues and fluids upon death. These prions may remain infectious in the environment for at least 2 years (Miller et al. 2004). CWD has an average incubation period from infection to clinical signs of approximately 16 months, and the clinical phase may last an additional 4-9 months, culminating in death (Williams and Miller 2002, Williams et al. 2002, Tamguney et al. 2009). There are no documented recoveries from infection.



AT THE END: An elk in the final stages of wasting disease (Beth Williams photo, University of Wyoming)

To date, CWD has been detected in captive or free-ranging wildlife populations in 25 US states (Colorado, Wyoming, Montana, Utah, New Mexico, Texas, Kansas, Nebraska, Oklahoma, North Dakota, South Dakota, Minnesota, Iowa, Missouri, Arkansas, Wisconsin, Illinois, Michigan, Ohio, Pennsylvania, West Virginia, Virginia, Maryland, Mississippi, and New York), the Canadian provinces of Alberta and Saskatchewan, Norway, Finland and South Korea and continues to expand its range annually. In October 2017, CWD was detected in free-ranging deer in Montana. It was previously only detected in 1999 at a captive game farm outside of Phillipsburg, which was subsequently depopulated. Many US states and Canadian provinces have documented the gradual spread of CWD despite attempts at managing it. One common observation is the patchy distribution of infections on the landscape (Conner and Miller 2004, Miller and Conner 2005, Farnsworth et al. 2006, Joly et al. 2006, Osnas et al. 2009, Heisey et al. 2010). Social, matrilineal, or breeding aggregations, habitat refugia, or “hot spots” of environmental contamination may be important amplifiers of transmission that lead to patchy prevalence over the landscape.

Determining the population effects of such a slow-moving disease is difficult, however, several field studies and computer models suggest that populations could be substantially reduced over time (Gross and Miller 2001, Miller et al. 2008, Wasserberg et al. 2009, Almberg et al.

2011, Monello et al. 2014, Geremia et al. 2015, Edmunds et al. 2016, DeVivo 2015, Samuel and Storm 2016). Radio-collaring studies have documented significantly lower survival for deer and elk infected with CWD, and some have measured declines in annual population growth rates (Miller et al. 2008, Monello et al. 2014, Geremia et al. 2015, Edmunds et al. 2016, DeVivo 2015, Samuel and Storm 2016). Several simulation modeling studies have predicted moderate to dramatic cervid population declines, including local extinction, over long timescales (>20 years) (Gross and Miller 2001, Wasserberg et al. 2009, Almberg et al. 2011). Documented CWD-related, herd-level declines in mule deer include a 21% annual decline in Wyoming (at 21-27% CWD prevalence; DeVivo 2015, DeVivo et al. 2017) and a 45% decline in Colorado (from 1987-2007 given prevalence of up to 41% in males and 20% in females; Miller et al. 2008). Among white-tailed deer in Wyoming, Edmunds et al. (2016) found a 10% annual decline in population size where prevalence was 33%, and a corresponding decline in buck age structure. While uncertainty remains over the size and extent of any future CWD-associated impacts, high prevalence and increased spatial spread of the disease are likely to correspond to population-level declines.

Existing management tools and evidence for their efficacy

Once CWD is present in a wild population, it is extremely difficult, if not impossible, to eliminate. New York may be the only state to have eliminated a CWD outbreak after its detection. That state responded aggressively to what appears to have been very early in a small outbreak (Miller and Fischer 2016). Typically, CWD is discovered after it has been established for some time. The approximately 16-month incubation period, during much of which an animal is infectious and shedding potentially long-surviving prions into the environment, makes it difficult to detect an emerging epidemic before it is well established.

There are currently no effective treatments or vaccines for CWD. Prevention is critical to the control of CWD over large landscapes. Preventative tools include restricting the transport of carcasses from CWD-infected areas or states, banning the transport or translocation of wild cervids, and requiring the responsible disposal (e.g. incineration or disposal in certified landfills) of carcasses from infected regions. Many states also restrict the baiting and feeding of wild cervids to help limit artificial aggregations that might facilitate more rapid disease transmission.

Despite the low likelihood of eliminating CWD from a wild population, there are several promising tools for slowing or controlling its spread and prevalence. To date, many states have attempted a combination of population density reduction, disease “hot-spot” culling and reducing large aggregations of cervids. Contact rate, and hence transmission rate, is often thought to be positively related to population density; however, due to cervid social behavior and the potential for transmission of CWD via the environment, this may not always be the case (Storm et al. 2013, Potapov et al. 2013). Thus, population density reductions alone may have only modest impacts on maintaining or reducing CWD prevalence. In Montana and other states there has been little public support for large-scale population reductions. “Hot-spot” culling, the strategic removal of animals from a local area, uses public hunting and/or agency staff to dramatically reduce cervids in a restricted portion of a population or geographic region centered around known CWD infections. The goal is to remove a cluster of infected animals

and thereby reduce prevalence in the larger population. Reducing large aggregations of cervids (i.e. large compact herds) either by eliminating food attractants (e.g. fencing haystacks), changing habitat structure, or through hunting pressure may also help reduce contact rates and transmission.

Computer simulation models have been used to explore additional options for controlling CWD. Most recently, several studies have predicted that increasing male harvest and reducing male to female sex ratios in cervids may be one of the most effective tools for reducing CWD prevalence (Jennelle et al. 2014, Potapov et al. 2016). In most study systems, male deer are 2-3 times more likely to be infected than females (Miller and Conner 2005, Heisey et al. 2010, DeVivo 2015, Samuel and Storm 2016; but see Edmunds et al. 2016), presumably due to behavioral differences, and thus targeting males may be an efficient way to reduce overall transmission. While anecdotal evidence from several jurisdictions may provide support for this hypothesis, it has yet to be tested experimentally.

Natural predation, particularly by selective predators, has been predicted to help stabilize or reduce CWD prevalence (Hobbs 2006, Miller et al. 2008, Krumm et al. 2010, Wild et al. 2011), and that “the role of predators should be considered in devising strategies for control of emerging or reemerging pathogens in natural populations” (Wild et al. 2011).

Limited empirical and modeling work to date suggests predators are good at preferentially selecting CWD-infected prey, including selecting infected animals before symptoms can be noticed by humans. Krumm et al. (2010) found that mountain lions were more likely to kill infected deer than non-infected ones, and Miller et al. (2008) found that infected deer were four times more likely to die from cougar predation than were uninfected individuals. However, Miller et al. (2008) found no evidence this controlled the spread of CWD in the heavily-infected population they studied (41% prevalence among males and 20% among females); prevalence remained high despite high predation rates. They speculated (p.2) that, “the tendency for predation to promote social grouping among herbivores could help sustain transmission by maintaining relatively high effective densities even as overall deer abundance declines, and concluded (p. 2), “our data show that prion infection in a natural population can surge seemingly unabated even in the face of intense selective predation.”

Theoretical modelling by Wild et al. (2011) suggests that coursing predators like wolves would be even more efficient at selectively removing infected individuals, and that this could substantially limit CWD prevalence and spread. However, questions remain about how wolves may alter the group size, distribution, and behavior of their prey and how this may affect disease transmission rates, or how dynamics are likely to play out in systems where the disease is most prevalent in deer but where wolves prey more intensively on elk. Wolves also reduce coyote numbers (Berger and Gese 2007), which are themselves efficient predators of deer, especially fawns. Therefore, any benefit of CWD reduction due to increased wolf predation may be mitigated by reduced coyote numbers. We currently lack definitive proof that predators can control CWD, but there is reason to believe they could help.

The larger question with any plan to enhance predator numbers to address CWD is that of social acceptance. Currently, it's not clear what the gain might be relative to the additional social costs of conflict with sportsmen, livestock producers and others. Predator management, particularly wolves, is controversial, and FWP's current wolf management has successfully met wolf management objectives outlined in the 2002 wolf management plan (Montana Wolf Management Advisory Council 2002), and integrated wolves into a 21st century landscape with a minimum of social conflict. There may, however, be opportunity to promote increased predator densities in areas where social tolerance would allow it.

Research from Wisconsin, Illinois, and Colorado suggests that combinations of some of these management tools may indeed help maintain or reduce CWD prevalence. Wisconsin attempted aggressive population reductions from 2003 to 2007, during which CWD prevalence remained relatively stable (Heisey et al. 2010); however, when agency-led culling was stopped because of public opposition (Holsman et al. 2010), prevalence increased (Heisey et al. 2010, Manjerovic et al. 2014). In contrast, neighboring Illinois continued population reduction and hot-spot culling, and CWD prevalence remained stable (Manjerovic et al. 2014, Mateus-Pinilla et al. 2013). Similarly, work by Geremia et al. (2015) in Colorado suggests that population density reductions and hot-spot culling may have contributed to declines in CWD prevalence in some herds; however, not all jurisdictions have detected declining prevalence in response to management (Conner et al. 2007).

CWD and human health

To date, several lines of evidence suggest that humans are at low risk of contracting CWD. There have been no documented cases of CWD causing disease in humans, despite epidemiological investigations of known or suspected exposures (Belay et al. 2004, MaWhinney et al. 2006). Several studies have demonstrated that normal prion proteins in humans, either in cell-free culture (Raymond et al. 2000) or as expressed in transgenic mice (Kong et al. 2005, Tamgüney et al. 2006, Sandberg et al. 2010, Wilson et al. 2012), do not readily convert to the diseased form when challenged with CWD prions. Furthermore, studies published to date suggest that exposure experiments in cynomolgus macaques, a primate considered a close experimental model for humans, do not result in disease expression (Race et al. 2009, Race et al. 2014); however, a recent preliminary, non-peer reviewed Canadian study (Czub et al. 2017) suggests that macaques can be infected by oral administration of CWD-infected meat.

Scientists and human health officials agree that it is prudent to minimize human exposure to CWD. The Centers for Disease Control (CDC) and the World Health Organization (WHO) advise against consuming any animal known to be infected with CWD. Furthermore, the CDC recommends that hunters strongly consider having their animals tested before eating the meat when hunting in areas where CWD is known to be present.

Some simple precautions should be taken when field dressing deer, particularly in CWD surveillance/endemic areas:

- Wear rubber gloves and eye protection when field dressing game animals.
- Minimize the handling of brain and spinal tissues.

- Wash hands thoroughly after field dressing is completed.
- Wash instruments thoroughly after field dressing is completed. Concentrated (40% solution) household bleach, or hypochlorous acid (HOCl, Briotech Inc.) may be useful in decontaminating instruments if immersed for up to five minutes (Hughson et al. 2016).
- Avoid consuming brain, spinal cord, eyes, spleen, tonsils and lymph nodes of harvested animals.

History of CWD surveillance and planning in Montana

FWP conducted active surveillance for CWD from 1998 through 2011, and more limited, opportunistic surveillance from 2012-2016 across the state. From 1998 to 2016, over 17,000 wild deer, elk, and moose were sampled for CWD with no positive detections (for a detailed history of CWD surveillance in Montana, see Anderson et al. 2012). The intensity and distribution of surveillance varied over time with the most intensive efforts from 2002 to 2011 coinciding with the availability of federal funding. Following a detection of CWD in a captive game farm outside of Phillipsburg in 1999, FWP began focusing surveillance efforts on “high-risk” areas of known proximity to CWD detections. In 2013, FWP released a report titled “Selected Results from Surveys of Resident Big Game Hunters and Private Landowners Regarding the Topic of Chronic Wasting Disease” (Lewis et al. 2013) in which the agency reported on hunter and landowner awareness of CWD and their preferences regarding CWD management. In 2014, FWP modified its CWD Management Plan for Free Ranging Wildlife in Montana (Montana Fish, Wildlife and Parks 2013, 2014) and called for a renewed surveillance effort in high-risk areas using a weighted surveillance strategy (Walsh 2012) alternating efforts among areas annually. In collaboration with FWP, Russell et al. (2015) combined information on distance to the nearest known CWD cases along Montana’s borders and relative mule deer densities within our state to predict the areas within Montana at highest risk of becoming infected through the natural spread of the disease. Their work identified several areas on the northern and southern borders of the state that have since been used to define the agency’s priority surveillance areas (see Chapter 2). In addition, several research projects have examined mule deer movements near our borders with Wyoming (Carnes 2009), Alberta, and Saskatchewan (Montana Fish, Wildlife and Parks 2017) to better inform our risk assessments and potential management responses. In 2016, FWP began regularly convening its internal CWD Action Team, and in 2017 assembled the CWD Citizen Advisory Panel for surveillance and management planning purposes.

Alternative Livestock Operations (Game Farms) in Montana

Ballot Initiative 143, passed in 2000, prohibited the creation of any new game farms in Montana. In 2017, there were 29 licensed facilities, and 21 of them had animals totaling about 775 captive cervids. Existing game farm animals are regulated by the Department of Livestock, and FWP is responsible for inspecting the properties to ensure appropriate fencing is maintained. Regulations include a mandatory CWD testing program for all licensed farms and provisions for depopulation and decontamination should CWD be detected. If CWD were detected within a Montana game farm, FWP would define the surrounding hunting districts as high-priority surveillance areas.

PREVENTION

The following statutes and policies help prevent the introduction and spread of CWD into Montana:

Baiting and Feeding

Feeding of big game animals facilitates the transmission of disease by concentrating and aggregating animals. Baiting and feeding of big game animals is illegal in Montana under MCA § 87-6-216(1)(c), which states, “a person may not provide supplemental food attractants to game animals by purposely or knowingly providing supplemental feed attractants in a manner that results in an artificial concentration of game animals that may potentially contribute to the transmission of a disease or that constitutes a threat to public safety.”

Scents and Lures

MCA § 87-6-221 prohibits the use or sale of deer or elk urine to mask human odor if the urine originated in a state or province with documented occurrences of CWD. The FWP Commission has authorized exceptions to this prohibition if individual facilities meet Archery Trade Association certification of being CWD free.

Carcass Transport

CWD prions in animal excreta or carcasses have been shown to remain infectious for at least two years in the environment (Miller et al. 2004). Due to the concern over indirect, environmental transmission, 41 states (including Montana) and seven Canadian provinces have restricted the import of hunter-harvested cervid parts (www.cwd-info.org). To prevent the spread of Chronic Wasting Disease from areas in Montana known to be infected to other parts of Montana, certain parts of animals harvested in those areas are not allowed outside of established Transportation Restriction Zones. Montana law (MCA § 87-6-420) prohibits the import of heads and spinal columns of cervids harvested in states or provinces that have CWD in wild or captive populations. A list of those states and provinces is posted on FWP's website and in the big game regulations and kept current by agency personnel. Importing processed meat, quarters, hides, antlers and/or clean skull caps, ivories, de-boned meat, finished mounts, and finished European mounts without any attached flesh are allowed.

Rehabilitation/Translocation

Currently, live animal tests for CWD are invasive, expensive, and less sensitive than post-mortem tests. Movement of live cervids within Montana or importing live cervids from outside Montana risks introducing or spreading CWD. As of 2005, FWP no longer rehabilitates orphaned elk calves and deer fawns (Montana Fish, Wildlife, and Parks 2008). This policy eliminates the potential spread of CWD that could occur by mixing CWD infected and non-infected orphaned animals at the rehabilitation facility and later releasing those animals in the wild.

FWP has not moved wild cervids within the state since 1997 when elk from the Moiese Bison Range were transplanted to Region One. FWP's current policy restricts the import or

movement within the state of wild cervids. Intra- and interstate movement of game farm animals is regulated by the Department of Livestock. Movement of captive cervids from other states or within Montana requires assurance that the herd of origin has been under an active CWD surveillance plan for 5 years with no incidence of CWD.

Carcass Disposal

Environmental contamination through dispersal of heads and spinal columns from butcher waste has the potential to introduce or spread CWD in wild populations. The U.S.

Environmental Protection Agency (EPA), the State of Wisconsin, and the U.S. Department of Agriculture have identified appropriate carcass disposal methods to include burying waste in municipal solid waste landfills (MSWLFs), incineration, alkaline hydrolysis tissue digestion, or on-site burial. The EPA currently recommends using MSWLFs for the large-scale disposal of potentially CWD-contaminated carcasses and wastes.

Carcass waste of animals harvested from areas in Montana where CWD has been detected should be disposed in an approved (40 CFR Part 258) MSWLFs. The Montana Department of Environmental Quality, Solid Waste Division, regulates and certifies MSWLFs and has provided a list of Class II sanitary landfills qualified to dispose of potentially CWD-contaminated materials (Table 1). Carcasses and carcass wastes with CWD may also be incinerated when possible. FWP will continue to educate the public, meat processors, taxidermists, and MSWLF operators on the proper disposal of carcasses and carcass parts of cervids.

Table 1. Class II municipal solid waste landfills (MSWLFs) in Montana.

County	City	Service Area
Beaverhead County	Dillon	Beaverhead and Madison counties
Big Horn County	Hardin	Big Horn County
Cascade County	Flowerree	Great Falls and 60-mile radius, towns of Lincoln, Lewistown and Livingston
Custer County	Miles City	School Districts 1, 3, and 63
Daniels County	Scobey	Daniels County
Dawson County	Glendive	Dawson, Prairie, and McCone counties
Fallon County	Baker	Southeastern Montana, Southwestern North Dakota
Flathead County	Kalispell	Flathead County
Gallatin County	Manhattan	Gallatin County, Big Timber, portions of Broadwater, Jefferson, and Madison counties
Hill County	Havre	Hill, Blaine, and Chouteau counties
Jefferson County	Montana City	Helena and 35-mile radius, Broadwater, Jefferson, and Park counties
Lake County	Polson	Lake County and Dixon Refuse District
Lewis & Clark County	Helena	City of Helena, Scratch Gravel Solid Waste District
Liberty County	Chester	Town of Chester and portions of Liberty County
Lincoln County	Libby	Lincoln County
Missoula County	Missoula	Western Montana, central Idaho
Park County	Livingston	Park County
Phillips County	Malta	City of Malta and some outlying areas
Pondera County	Conrad	City of Choteau, Pondera County, Glacier County excluding Blackfeet Reservation
Powder River County	Broadus	Powder River County
Powell County	Deer Lodge	Powell County
Richland County	Sidney	Township, North Dakota
Roosevelt County	Wolf Point	Wolf Point, Poplar, Fort Peck Tribes, Circle
Rosebud County	Forsyth	Rosebud County
Sheridan County	Plentywood	Sheridan County
Silver Bow County	Butte	Silver Bow and Anaconda-Deer Lodge counties
Toole County	Shelby	Shelby, Sunburst, Kevin, and portions of Toole County
Valley County	Glasgow	Glasgow, Valley and Phillips Counties, Frazer, Nashua, Jordan, St. Maries
Yellowstone County	Billings	Yellowstone, Carbon, Stillwater, Treasure and Musselshell counties, Pryor, Big Timber

People Involved in Developing Montana's CWD Management Plan

FWP CWD Action Team Members

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Dr. Emily Almberg, Wildlife Disease Ecologist
Dr. Jennifer Ramsey, Wildlife Veterinarian
Dr. Jessy Coltrane, Wildlife Biologist, Kalispell
Ryan DeVore, Wildlife Biologist, Broadus
Julie Golla, Wildlife Biologist, Anaconda
Scott Hemmer, Wildlife Biologist, Havre
Matthew Ladd, Warden, Billings
Michael Lee, Commercial Wildlife Permit Manager, Enforcement Division, Helena
Greg Lemon, Conservation Education, Helena
Karen Loveless, Wildlife Biologist, Livingston
Adam Pankratz, Warden Captain, Bozeman
Justin Paugh, Wildlife Biologist, Big Timber
Ryan Rauscher, Wildlife Biologist, Conrad
Zach Zipfel, Legal Counsel, Helena

Montana CWD Citizen Advisory Panel Members

Bret Barney, Wyola, Region 5, Sunlight Ranch Wildlife Manager
Ed Bukoskey, Rosebud, Region 7, Sportsman, served on Brucellosis, Private Land Public Wildlife & Elk Archery Working Groups
Joe Cohenour, East Helena, Region 3, Active sportsman, helped draft and pass 2 CWD bills into law, RMEF Volunteer, former PLPW and CAC member, Brucellosis Working Group member.
Dr. Richard Douglass, Butte, Region 3, Emeritus professor of biology at MT Tech, serves on Brucellosis Working Group
Tim Feldner, Helena, Region 3, Retired FWP Commercial Wildlife Permit Manager, co-author 2005 CWD Plan
Dr. Tom Geary, Miles City, Region 7, Research Animal Scientist USDA Agriculture Research Services
Henry Gordon, Chinook, Region 6, Former Citizen Advisory Council member, Landowner & Rancher
James Haggerty, Belt, Region 4, Rancher, RMEF & BCHA member
Chad Klinkenborg, Bozeman, Region 3, Mule Deer Foundation Montana Regional Director
Dr. Charles Noland, Worden, Region 5, Former Citizen Advisory Council member, Landowner, Livestock Veterinarian
Dr. Brent Race, Corvallis, Region 2, Research veterinarian at Rocky Mountain Lab working on prions
Dr. Ben Rossetto, Kalispell, Region 1, Physician, Hunter, non-consumptive user, former Chief of Staff Kalispell Regional Medical Center

CHAPTER 2.

MONTANA'S CWD SURVEILLANCE PLAN

Montana Fish, Wildlife, and Parks' CWD surveillance plan will efficiently use finite resources of staff and funding to maximize our ability to detect CWD in areas where it is not known to exist. This entails (1) continuing to test any symptomatic cervid (deer, elk, or moose) statewide, (2) focusing systematic surveillance primarily on mule deer, the most susceptible species within Montana, and (3) employing a weighted surveillance strategy aimed at detecting 1% CWD prevalence with 95% confidence (Walsh 2012) that rotates among high-priority CWD surveillance areas. High priority surveillance areas (Fig. 1) may change over time as new information becomes available, but are currently defined as those areas within Montana that have both high mule deer densities and are within sixty miles of the nearest known cases of CWD (Russell et. al 2015). These priority surveillance areas are those most likely to be infected through natural spread of the disease. Although FWP intends to prioritize the sampling of mule deer, we will also sample elk, white-tailed deer, and moose on an opportunistic basis. Samples will be collected from symptomatic animals, animals necropsied from research projects, hunter harvested animals, and road-killed animals. This effort will require (1) hiring five temporary technicians (one for 32 weeks, and four for 16 weeks, roughly starting Sept 1) to assist with sample collection and processing, and (2) increased educational outreach during hunting seasons. In addition, there will be an increase in overall testing costs to accommodate the extra volume of samples. FWP Wildlife Health Program staff and the technicians (supervised by the Disease Ecologist) will be primarily responsible for implementing the surveillance program with additional support from regional staff. Hunters who harvest animals outside of a surveillance area and want to have their animal tested may submit their own samples and pay the testing costs and will be asked to share test results with FWP.

Priority surveillance areas, minimum surveillance units, and rotation schedule

Russell et al. (2015) combined information on distance to the nearest known CWD cases along Montana's borders and relative mule deer densities in Montana to predict the areas within Montana at highest risk of becoming infected through the natural spread of the disease. FWP has used this information to identify high priority surveillance areas (Fig. 1), which also include the area surrounding Philipsburg, where Montana had its only recorded case of CWD at a captive game farm in 1999. Since CWD could be spread through the inadvertent or illegal movement of a CWD-positive cervid carcass into the state or from CWD-positive areas within Montana, we will formally survey additional areas of the state outside of the high priority surveillance zones. Moreover, priority surveillance areas may change based on CWD detections within Montana.

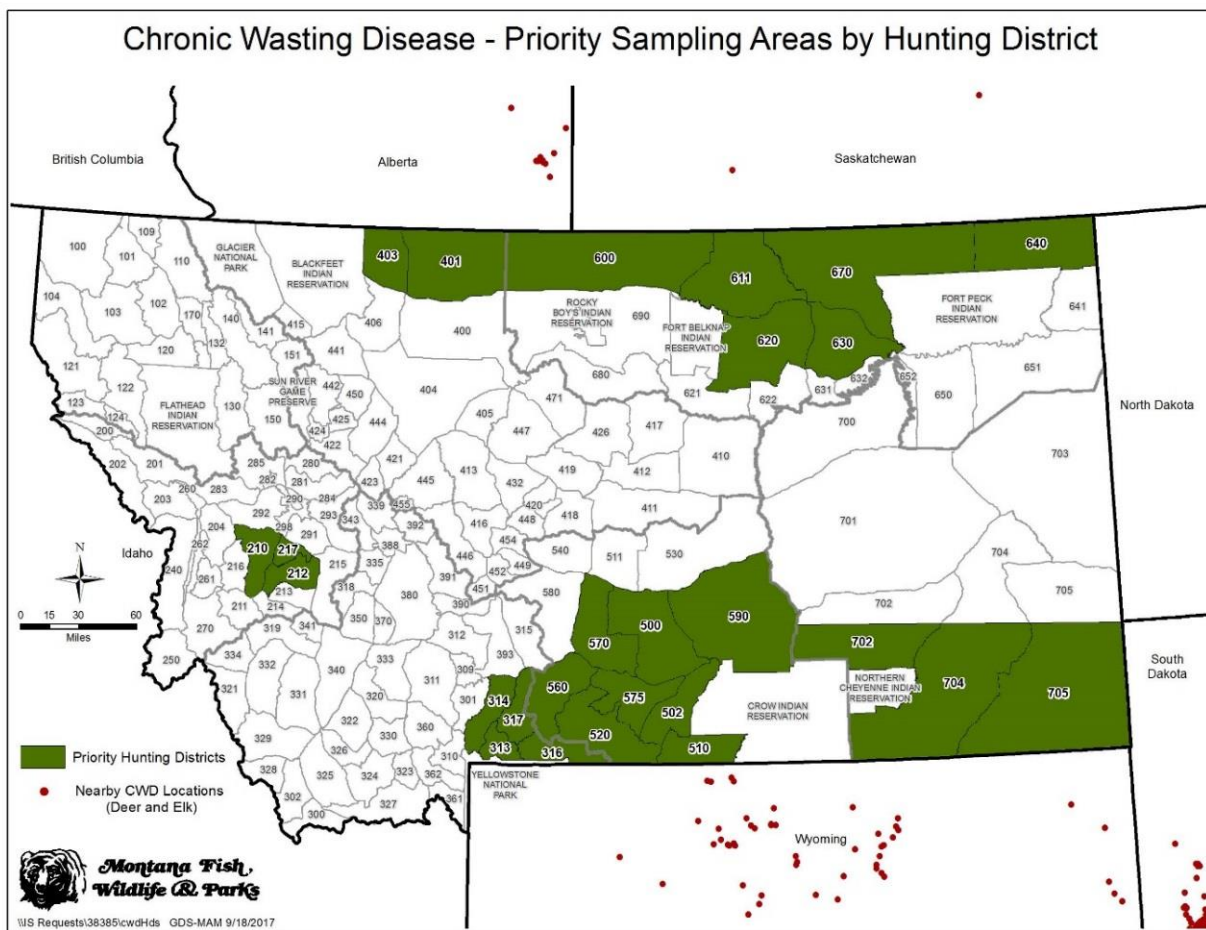


Figure 1. Currently identified high priority chronic wasting disease (CWD) surveillance areas in Montana. Areas were based on proximity to known CWD cases in neighboring states/provinces (red dots) and mule deer densities in Montana from Russell et al. (2015). Hunting Districts 210, 212, and 217 surround the captive elk facility that tested positive for CWD in 1999. High-priority areas may change depending on new detections of CWD in surrounding states and provinces or in Montana. Mule deer hunting districts are displayed.

Priority surveillance areas are divided into spatially defined sampling units in which surveillance will be conducted. These “minimum surveillance units” are defined as aggregations or portions of deer hunting districts that encompass populations of $\leq 15,000$ deer (mean = 8,450, median = 8,500) (Table 2). The minimum surveillance units are meant to capture discrete population units of deer that are well-mixed. Surveillance will occur in up to four of these minimum surveillance units per year, grouped by geographic proximity to facilitate logistics (Table 2). We will rotate to a new group of minimum surveillance units each year within a three-year rotation. This plan is intended to be adaptive to new information related to CWD presence in adjacent states and provinces and within Montana. High-priority surveillance areas may change based on new detections of CWD, and high-priority survey areas will be adjusted based on the latest available

information on CWD presence. Outside of these high-priority surveillance areas, we will continue to collect and test all symptomatic deer, elk, or moose, regardless of the location within the state, and visit at least two new non-priority areas for surveillance within the three-year rotation described above (Table 2). The location and boundaries of these non-priority areas would be determined by input from regional managers and biologists and would be restricted to a population size of $\leq 15,000$ deer.

Table 2. Table of proposed minimum CWD surveillance units (aggregations or portions of mule deer hunt districts; Figure 1), their estimated population size (2015 estimates), and suggested groupings of units to be visited within the same year. This represents the grouping of surveillance units based on high risk areas identified prior to the 2017 round of weighted surveillance. Year 1 sampling began in 2017.

Minimum CWD surveillance units for mule deer populations (aggregations or portions of hunt districts)	Estimated mule deer population size	Grouping of surveillance units to be visited within a year
313, 314, 316, 317	5000	Year 1
520, 560, 575	8500	Year 1
510, 502	4500	Year 1
570, 500, 590	11500	Year 1
210, 212, 217	2000	Year 2
401, 403, 600, 611	8500	Year 2
Rotating surveillance area (e.g. Region 1)	-	Year 2
670, 640, 620, 630	12500	Year 2
South half of 702	5000	Year 3
South half of 704	12000	Year 3
South half of 705	15000	Year 3
Rotating surveillance area (e.g. Region 1)	-	Year 3

Weighted surveillance, sample size and sampling distribution

Within each minimum surveillance unit, we will use a weighted surveillance strategy (Walsh 2012). Weighted surveillance incorporates the relative risk of different demographic groups (age, sex, or cause of death categories) to economize sampling efforts. For example, previous studies on mule deer in Colorado have shown that within CWD-endemic areas, symptomatic individuals are much more likely to be CWD-positive than apparently healthy, hunter-harvested animals (Walsh 2012). Similarly, at least with mule deer, animals that have died due to vehicle collisions, predation or other unexplained mortalities are more likely to be infected with CWD. Adults of either sex are more likely to be infected than young animals, as they have had more time to become infected, and males are more likely to be infected than females. These

differing probabilities of infection have been used to create a weighted point system, where animals that are more likely to be infected with CWD are given more points towards meeting a sample size goal (Table 3) (Walsh 2012). These estimated points are unique to each cervid species and cannot be combined across species.

Table 3. The relative weights or “points” associated with each demographic group of deer and elk that count towards meeting a sample size goal using a weighted surveillance strategy based on data from mule deer and elk in CWD-positive areas in Colorado (Walsh & Otis, 2012) and white-tailed deer in Wisconsin’s CWD management zone (Jennelle et al., *in review*).

Demographic Group	Weight/Points		
	Mule Deer	White-tailed Deer	Elk
Symptomatic female	13.6	9.09	18.75
Symptomatic male	11.5	9.09	8.57
Road-killed males/females	1.9	0.22	0.41
Other mortalities (predation, other unexplained in adults and yearlings)	1.9	7.32	0.41
Harvest-adult males	1	3.23	1.16
Harvest-adult females	0.56	1.30	1.00
Harvest-yearling females	0.33	0.85	0.23
Harvest-yearling males	0.19	1	NA
Harvest-fawns/calves	0.001	0.001	NA

Using weighted surveillance, our goal is to detect CWD with 95% confidence if it is present at 1% prevalence. The required sample size, using the standard equation for calculating the number of samples needed to demonstrate freedom from disease (Dohoo et al. 2009, and see *Sample size calculations to detect disease presence with 95% confidence* on page 17), is 300. Thus, with 300 weighted surveillance sample points we expect to be able to detect at least one positive with 95% confidence if CWD were present at 1% prevalence within a minimum surveillance unit. Sample size requirements are relatively invariant to population size if trying to detect the disease at a specified prevalence (Walsh 2012). In addition, sample size estimates are specific to a single species within a minimum surveillance unit. Therefore, our surveillance efforts will focus on mule deer since they are the species with highest observed prevalence and are believed to be most susceptible to CWD within our state (Miller et al., 2000). In surveillance units where we may not be able to obtain enough mule deer samples, we will opportunistically sample elk, white-tailed deer, and moose; however, these samples will not count towards meeting sample size objectives in mule deer for that minimum surveillance unit. In white-tailed deer-dominated ecosystems, such as northwest Montana, surveillance will target white-tailed deer, and mule deer, elk and moose will be sampled opportunistically.

As an example, if we tested 10 symptomatic female mule deer (worth 13.6 points each) and 164 hunter-harvested adult male mule deer (worth 1 point each) broadly sampled from across a minimum surveillance unit, the 300-point goal would be met after having only sampled 174 animals (e.g. $10 \times 13.6 + 164 \times 1 = 300$ points). Understanding these relative weights allows us to maximize the value of our limited resources. This information also reinforces the lack of value in collecting fawns or harvested yearling males because they are unlikely to be positive for CWD.

Within each minimum surveillance unit, every effort must be made to broadly distribute the sampling effort to maximize the detection of infection (Walsh 2012). CWD infections are highly localized when they do occur (Conner and Miller 2004, Miller and Conner 2005, Farnsworth et al. 2006, Joly et al. 2006, Osnas et al. 2009, Heisey et al. 2010), and we are less likely to detect an infection if sampling is highly clustered or biased to one portion of the minimum surveillance unit. While road-kills and symptomatic animals are most valuable, they are also most likely to be collected within a small portion of the surveillance unit (e.g. roadways, human-populated areas). Therefore, such samples must be augmented with a broader distribution of hunter-harvested samples.

If we are unable to meet sample size requirements within a surveillance area in a given year, we may continue to collect a limited number of samples in subsequent years to achieve our 300-point sample goal within a two to three-year period. CWD is a relatively slow-moving disease at the population level, and since prevalence is unlikely to substantially change over a two to three-year period, aggregating samples over this time frame is reasonable. Sampling beyond the primary surveillance year will require biologists and wardens to continue to sample symptomatic, road-killed, and hunter-harvested animals.

Sample collection, storage, testing and reporting schedule

FWP will use a variety of tools to obtain samples including working with Montana Department of Transportation, Highway Patrol, hunters at check stations, processors and taxidermists, outfitters, landowners and by sending letters to license holders. For each cervid sampled as part of the CWD surveillance program, field and laboratory staff will collect retropharyngeal lymph nodes from deer and elk (Hibler et al. 2003) and an obex sample from moose (obex may also be sampled from deer and elk if the lymph nodes are not available), an incisor tooth for aging, and a small genetic sample (muscle tissue), when possible. In addition, field staff will work with hunters or others to gather precise location information on where the animal was harvested/found, species, age, and sex. Lymph nodes and obex from deer and elk will be frozen for subsequent enzyme-linked immunosorbent assay (ELISA) testing, whereas lymph nodes and obex from moose will be fixed in 10% buffered formalin for immunohistochemistry (IHC) testing. As new validated testing methods become available they may be considered. Samples will be submitted to a National Animal Health Laboratory (NAHL) Network-accredited diagnostic laboratory (currently Colorado State Veterinary Diagnostic Laboratory) as soon as possible, with an expected return time for results of 1-2 weeks. Results from hunter-harvested animals will be posted on FWP's website as soon as results are received from the lab, which is generally within 2-3 weeks. If a harvested animal tests positive for CWD, FWP will attempt to directly contact

the associated hunter to inform them of the test results, that the meat may be legally disposed of, and to determine the disposition of carcass parts. An annual surveillance report will be published by April 1 following the end of the previous hunting season. Press releases will be issued as needed to keep the public informed as soon as partial or all test results have been received or when CWD is found.

Hunters that have harvested animals outside of a targeted surveillance unit for that year and who wish to have their animal tested for CWD will be asked to pay for the testing costs. In most cases, hunters will have to extract samples from their own animals. FWP provides information on sample collection and submission on their website (fwp.mt.gov/cwd). FWP will also request that hunters sign a release to allow the diagnostic lab to share results with FWP.

Surveillance after detecting CWD

Upon any new detection of CWD, FWP may mount a separate, intensive effort within an Initial Response Area (IRA) to determine prevalence and distribution of the disease (see Chapter 3 - *Montana's Response to a Detection of CWD*). We will develop a monitoring program to track changes in distribution and prevalence over time and in response to management actions. However, any CWD-endemic areas may be dropped from the surveillance rotation. Statewide surveillance outside of the Initial Response Area or CWD Management Area will be expected to continue as described in this plan. CWD detections outside of Montana, but within 10 miles of the border, will be evaluated on a case by case basis by the FWP CWD Action Team as to whether to increase surveillance or initiate a Special CWD Hunt.

Sample size calculations to detect disease presence with 95% confidence

The basic equation for calculating the number of weighted-sample “points” needed (n) to establish freedom from disease at a specified prevalence level (P ; or proportion of the population testing positive) and with a desired level of statistical confidence (α), assuming the number of positive cases follow a Poisson distribution is (Dohoo et al. 2009):

$$n = \frac{-\ln(1 - \alpha)}{P}$$

There are variations on this equation that account for population size or for imperfect test sensitivity (ability of a test to correctly identify those with the disease) and specificity (ability of a test to correctly identify those without the disease). However, since the number of weighted sample points needed is relatively invariant over the range of animal population sizes commonly encountered with ungulates, and there are errors associated with field estimates of ungulate population sizes, we have chosen to use the above, conservative equation. Similarly, test sensitivity and specificity are both high for the CWD ELISA test, and therefore we have chosen to use the simple calculation.

For a weighted surveillance strategy, the above calculation is used to determine the number of “points” needed (as opposed to the number of animals) to establish freedom from disease at a specified prevalence level and with a desired level of confidence (Walsh 2012) (Table 4). Weighted surveillance allows one to incorporate previous estimates of the relative risk of various demographic groups (age, sex, or cause of death categories) to economize sampling efforts. Animals that are more likely to be infected are given more points towards meeting a sample size goal.

Table 4. Weighted sample points needed to detect a specified prevalence (P ; proportion of the population testing positive) with 95% confidence.

Prevalence (P)	Points Needed
0.1%	2996
1%	300
5%	60
10%	30

CHAPTER 3.

MONTANA'S RESPONSE TO A DETECTION OF CWD

The following are the actions Montana Fish, Wildlife and Parks (FWP) may take upon any new detection of CWD in the state. These efforts are designed to minimize spread among herds and maintain low prevalence in infected herds. This response plan is broken into two phases, each with several steps. Phase I is the initial response to CWD detection. Phase II is the long-term management of the area once prevalence and distribution of the disease is better known. While most attention is currently on mule deer, since they appear to be the best sentinel for detecting CWD (Miller et al., 2000), similar actions would be considered for a detection in white-tailed deer, elk or moose as warranted.

Objectives for CWD management:

1. Minimize effects of CWD on cervid populations
2. Minimize health risks of CWD for humans
3. Maximize recreational opportunities
4. Maintain public trust and support
5. Increase understanding of CWD impacts on cervid populations and human health
6. Use Adaptive Management to evaluate management effectiveness
7. Minimize cost
8. Work effectively with elected officials at all levels, land managers, public health professionals, land owners, and tribes to achieve objectives.

FWP's goal in managing CWD is to reduce prevalence to and/or maintain it at 5% or lower within the affected population to minimize population effects and disease spread. Regardless of prevalence, any detection of CWD needs to be addressed through management. The geographical size of the area to be managed long-term in Phase II will depend on the results of sampling during an initial response described below, but would most likely be at least at the hunting district or county scale. This goal takes into consideration that once discovered, CWD prevalence in the local cervid population may already exceed 10%. If this is the case, reducing prevalence to $\leq 5\%$ may prove difficult or impossible.

Phase I: Initial Response to a New Detection

Response to a detection of CWD outside of a population where it is already known to occur will follow an Incident Command Structure. An immediate objective will be to measure prevalence and distribution. There may be different options to achieve that objective.

Step 1 - The Incident Command Team.

The FWP Regional Supervisor or designee reporting directly to the Regional Supervisor will be the Incident Commander directing response efforts if he/she has had incident command

training, otherwise it will be an appropriately-trained FWP employee. The Incident Command team will be comprised of the Regional Wildlife Manager, the Area Wildlife Biologist, the Regional Warden Captain, the Regional Information Officer, the Wildlife Disease Ecologist, the Information Bureau Chief, the License Bureau Chief, the Game Management Bureau Chief, and others as deemed necessary. Others may include but are not limited to representatives from the Montana Department of Livestock, Montana Department of Public Health and Human Services, and representatives from adjacent tribes.

The role of the Incident Commander and his/her team is to implement the response plan as herein described—primarily by determining the need for any Special CWD Hunt, and implementing that hunt if necessary. Details include outlining communication, logistical and personnel needs and issues, initial response procedures, immediate and long-term communication needs such as writing and sending letters to residents, landowners and hunters, and determining the need for holding public meetings. Field operations (training, enforcement, check stations) and ongoing contingency response needs will be addressed. Determination and legal definition of the Initial Response Area (IRA) and Transport Restriction Zone (TRZ) is paramount. Determining species population status within the IRA and subsequent sampling actions (to include sampling protocols, license types and means of distribution and number of licenses) will follow. Focused communications with area landowners, the broader citizenry of both the IRA and the TRZ and the public at large will be an immediate focus.

Step 2 – FWP Director, Regional Supervisor/Incident Commander and local F&W Commissioner determine the need for and authorize a Special CWD Hunt, Initial Response Area (IRA) and Transport Restriction Zone (TRZ).

Not every new detection of CWD will require an immediate Special CWD Hunt. For example, if there is a new detection during a general hunting season, we may choose to hold a Special CWD Hunt as part of the general season the following year. This would allow for any additional positive animals harvested during the ongoing season to be considered in defining a more comprehensive IRA, and allow for IRA and TRZ definitions and special rules and regulations for the hunt to be included in hunting regulations for the following year. FWP may choose to issue more B licenses valid only within the IRA for the general season Special CWD Hunt. This approach would require significant public education efforts to inform hunters of the impending Special CWD Hunt, the area where it will take place, its special rules and regulations, and the need for mandatory sampling as outlined below. It is important that the public outreach clearly convey that because CWD moves slowly through populations, delaying action for a year is not expected to increase prevalence or spread significantly. Enough animals may be sampled during a general season Special CWD Hunt that a late hunt is not needed, which may reduce possible strained relations with landowners.

Defining an Initial Response Area (IRA) - Immediately following a new detection of CWD, FWP will define a 10-mile radius around the site of the detection and use this as a guide to legally define the Initial Response Area (IRA). The IRA will be legally described using boundaries such as roads, creeks, ridge tops, etc. to facilitate ease of understanding and subsequent

management actions. FWP may put up signs at major access points identifying the area as an IRA and that special hunting and other regulations apply. The Area Biologist and Regional Wildlife Manager will estimate the herd size, distribution, age and sex ratios, and density and will identify important movement corridors and connectivity with neighboring populations. Subsequent survey flight data may be used to modify the original IRA boundary.

Defining a Transport Restriction Zone (TRZ) - With definition of the IRA, FWP will also define a CWD Transport Restriction Zone (TRZ). This zone will be one or more contiguous counties, or portions of counties, that contain the IRA. Transportation of cervid carcasses or parts, as defined below, from the IRA will not be allowed outside of this zone. The TRZ is larger than the IRA to allow access to meat processors and taxidermists for hunters participating in a Special CWD Hunt and to facilitate sanitary disposal of carcass parts (See below).

Once a TRZ is established, it will remain in place indefinitely for animals that are taken within all or portions of the county(s) or hunting district(s) where the Special CWD Hunt occurred, even after a Special CWD Hunt ends. The permanent TRZ should include any Special CWD Hunt IRA, but may be expanded to easily-understood hunting districts or counties or portions thereof that include the IRA. The perpetual TRZ only applies to animals taken in all or those portions of counties or hunting districts known to be CWD positive. For example, the Bridger Special CWD Hunt defined an IRA in part of Carbon County because that is where CWD-positive animals were harvested, but the TRZ included both Carbon and Yellowstone Counties. Moving forward, unless the situation changes with detections in Yellowstone County, the Carbon-Yellowstone TRZ only applies to animals harvested in that part of Carbon County east of Highway 212 and the Robert-Cooney Road. Animals harvested in Yellowstone county are not subject to TRZ restrictions.

Once an IRA and a TRZ are defined and a Special CWD hunt is defined and authorized, changing the parameters of the hunt while it is ongoing should be avoided. Changing these parameters would lead to hunter confusion. However, there may be cases where additional positives are detected during the initial response and expanding the first IRA is desirable. In these cases, if other positives are more than five miles from the index case, FWP may expand the initial IRA based on established criteria within this document. CWD detections outside of Montana, but within 10 miles of the border, will be evaluated on a case by case basis as to whether to increase surveillance or initiate a Special CWD Hunt.

Step 3 – Begin public information campaign.

Immediately following verification of a new detection of CWD, FWP's Communication and Education division will begin an aggressive information campaign as described in the *Montana CWD Public Information Plan* (Chapter 4). The information campaign will identify the site of the detection, the actions FWP is going to take, and, most importantly, the reasons such actions are necessary. Public education of the risks of CWD to our wildlife is critical in maintaining support for our management efforts. Chapter 4 includes example press releases and letters to residents, landowners and hunters.

Step 4 – Determine CWD prevalence and distribution within the Initial Response Area (IRA)

As described above, within a year after initial detection, FWP will collect samples to determine CWD prevalence and distribution within the IRA. This may be done during the general season, but will likely include a Special CWD Hunt. Prevalence will be assessed primarily using samples from hunter-harvested animals, most likely through a Special CWD Hunt (see below), using a non-weighted sampling design that differs from the surveillance plan sampling used pre-detection. FWP's disease ecologist will determine the sample size necessary to describe prevalence with 95% confidence within a 3% margin of error, accounting for the estimated number of deer within the IRA. This could result in required sample sizes ranging from 100-200 animals (Table 5, see also *Sample size calculations for measuring CWD prevalence* at the end of this chapter for a more detailed explanation). Samples should be collected as evenly as possible from across the IRA and in rough proportion to the available age and sex classes within the population to achieve an unbiased estimate of prevalence. There is evidence to suggest that prevalence differs between the sexes. If prevalence is significantly different between the sexes, sample design may be adjusted to target a specific sex.

Table 5. Examples of sample size needed to determine CWD prevalence with a 3% margin of error and 95% confidence in cervid populations of different sizes based on a predicted 5% prevalence using sample size calculations found on page 29.

Size of deer or elk population in the IRA	Sample size needed to determine prevalence
250	112
500	145
750	152
1000	169
2000	184
3000	190
5000	195

These sample size goals will be applied to target species as determined through surveillance although all other cervid species within the IRA will be sampled opportunistically. FWP will continue to collect samples from symptomatic and road-killed animals to inform the distribution of CWD within the IRA, but for statistical sampling reasons that require an unbiased sample, these will not contribute to our estimates of prevalence.

Sampling to measure prevalence and distribution will be achieved using public hunting whenever possible and to the degree practical. However, there may be special circumstances where public hunting is not suitable or unlikely to achieve desired results such as within

subdivisions or a small field surrounded by houses. In these cases, other sampling means like special permits to landowners who must then donate the meat to a food bank or agency lethal removal may be considered, but only as a last option. If the first detection occurs when a hunting season could be authorized (August 15 – February 15) a public hunting effort will be the priority. If the first detection is during spring or summer, a public hunting effort will be mounted with consideration given to animal seasonal movements and concentrations, but may begin as early as August 15.

FWP staff will track the harvest through mandatory checks of harvested animals. FWP's Wildlife Disease Ecologist (currently Dr. Emily Almberg) will determine when the sampling requirements, as defined above, have been satisfied. Ideally, animals will be sampled by age and sex in proportion to their estimated availability in the population. If a sex or age class is under-sampled, additional sampling may be required. The Special CWD Hunt will end when sample goals are reached or not later than February 15.

Establishing a Special CWD Hunt in the Initial Response Area (IRA)

Special CWD Hunts within the IRA will require regulations that will differ significantly from regular hunting season regulations, even if the hunt occurs during the general season. The following are some of the special regulations, rules and reporting requirements that participants must follow. Additional special regulations may be warranted to ensure a successful hunt by circumstances particular to that hunt. Violation of these special regulations is punishable under Commission rules and regulations.

- The IRA boundaries and special regulations for hunt participation will be publicized by FWP's Communication and Education Division through press releases, social media, the FWP website, radio, TV, and other venues. This will include a definition of the IRA and the TRZ, pertinent special hunt rules and regulations, and hunt dates.
- Licenses – During any ongoing general archery or firearms seasons existing A and B licenses will continue to be valid in the hunting district(s), including the IRA, but hunters using those licenses in the IRA will be subject to all the special rules and regulations of the Special CWD Hunt. Additionally, hunters may purchase CWD Special Hunt B Licenses valid only within the IRA during the Special CWD Hunt. A hunter may not possess more than seven deer B licenses per year. There may be two different types of Special Hunt B licenses offered: either-sex licenses and antlerless-only licenses, based on sampling need. A limited number of licenses of each type will be offered depending on sampling need, and could be up to 1,000 licenses. Only in this or another special hunt circumstance can a hunter in Montana harvest more than one antlered buck per year. In the case of a Special CWD Hunt, a license holder could harvest one antlered buck with a regular A license during the general archery or firearms seasons in any open area within the state, as well as one or more antlered bucks within the IRA with a Special CWD Hunt either-sex license during the Special CWD Hunt. Other Special CWD Hunt B Licenses will be for antlerless-only. The creation and sale of CWD Special Hunt Licenses will be coordinated with FWP licensing bureau. To avoid overcrowding of hunters, Special CWD Hunt B

Licenses may be valid only for a specified time within the hunt. For example, a license may only be valid for a one- to two-week period, to stagger hunters throughout the duration of the hunt.

- The Special CWD Hunt will be open to any legal weapon unless conditioned by a landowner providing access to private property. This means that hunters might use rifles during what would otherwise be an archery-only season.
- All animals harvested during the Special CWD Hunt must be checked at a FWP Special CWD Hunt Check Station, at a Regional Headquarters within the TRZ, or as otherwise arranged with FWP within three days. FWP will establish one or more check stations at access points to the IRA to collect samples and aid hunters. Check stations will initially be open from 10:00 AM to 1 hour after sunset as determined from sunrise/sunset tables in FWP hunting regulations. As the hunt progresses, check station operation parameters (time, location, duration) may change – but only with adequate notice to participating hunters. These check stations will be operated only as part of the CWD management action. The stations will be staffed by FWP personnel and possibly volunteers or staff from partner agencies. Hunters will be required to document the exact location of the kill using a GPS, a USGS Topographic Map, or a map available by FWP at check in. Hunters who quarter or bone out their animal must bring the head to the check station for inspection.
- Submission of a sample for CWD testing will be mandatory for all cervids harvested in the IRA during a Special CWD Hunt regardless of type of license used. Species, sex, and age of the animal will be recorded and retropharyngeal lymph nodes or obex, a tooth for aging, and a genetic sample will be collected.
- Whole carcasses or whole heads and/or spinal columns of cervids harvested within the IRA cannot be transported out of the TRZ. All cervids taken within the IRA and checked by FWP will be tagged with a tag reading “MTFWP CWD TEST” and a unique identification number. Tags will be in identical pairs: one for the carcass and one for the head or sample. Heads of animals may be surrendered to FWP, although special accommodations will be made for heads destined for taxidermy. The carcass tag will identify the animal as having been checked by FWP and serve as evidence of sex. The spinal column may be left in the field at the kill site with landowner permission. Carcass parts that may be removed from the TRZ include:
 - meat that is cut and wrapped or meat that has been separated from the bone.
 - quarters or other portions of meat with no part of the spinal column or head attached
 - hides with no heads attached
 - skull plates or antlers with no meat or tissue attached
 - skulls that have been boiled and cleaned to remove flesh and tissue
- To reduce risk of CWD spread, hunters are strongly encouraged to dispose of hides, bones and trimmings at approved landfills.
- Hunters will be encouraged to take precautions, including using gloves and eye protection, minimizing the handling of brain and spinal tissues, washing hands, and

cleaning instruments thoroughly after field dressing an animal. Concentrated (40% solution) household bleach, or hypochlorous acid (HOCl, Briotech Inc.) may be useful in decontaminating instruments if immersed for up to five minutes (Hughson et al. 2016).

- Avoid consuming brain, spinal cord, eyes, spleen, tonsils and lymph nodes of harvested animals.
- DoL and DPHHS developed best practices for meat processors which FWP will distribute via letters and Frequently Asked Questions (FAQ) sheets.
- Any area where an IRA is established is likely to include private land. A Special CWD Hunt does not grant hunter access to any private land. Hunters must get landowner permission to hunt on private land. Access to state and federal public lands within the IRA will be coordinated with the land managing agency.
- If enough samples are not collected by February 15, FWP may consider other options including, but not limited to:
 - Resuming the hunt the following August 15.
 - Additional sampling the next year during the general hunting season.
 - Continuing the Special CWD Hunt after February 15. This will require special Fish and Wildlife Commission action.
 - In exceptional circumstances issuing special kill permits to landowners or their agent or designee who must donate any meat to a food bank.
 - In exceptional circumstances initiating agency lethal removal and sampling. Other precedents for agency lethal sampling include the removal of urban deer and the removal of bighorn sheep during a die-off or those that have come in contact with domestic sheep.
- The Special CWD Hunt will terminate once pre-determined goals for sample size and sampling distribution have been met, although the TRZ will remain in effect indefinitely for animals harvested in the CWD-positive area [e.g. hunting district(s) or county(s)] that is CWD-positive. Goals are to estimate prevalence within a 3% margin of error with 95% confidence with broad sampling coverage across the IRA.
- FWP's Communication and Education Division will publicize the end of the hunt through press releases, social media, the FWP website, radio, TV, and other venues.
- At the conclusion of the established Special CWD Hunt and within three months of hunt termination, FWP will convene a public meeting in the local community to report findings. Included will be an after-action final report.

Most hunters will want to know the test results prior to consuming their meat. Every effort will be made to return test results from within the IRA to hunters in a timely manner; however, because test results may not be known for a week or more, hunters will likely have to process their meat before they have a test result in hand. FWP will attempt to contact hunters whose animal tests positive for CWD to inform them of the test results and that the meat may be legally disposed of, and to determine the disposition of carcass parts. If the general season or Special CWD Hunt is still open, those hunters may receive a replacement license at no cost.

Success of the hunt will in many cases be largely determined by private landowners' participation. Therefore, it is again vitally important the messages to the public and to individual landowners stress the threat of CWD, the importance of action, and the steps in this action plan. FWP will make every effort to address individual landowners' concerns related to participation in a CWD hunt. Block management cooperators will be contacted and may choose to make their lands available to the public during a CWD hunt. If the hunt extends past the period eligible for payment, they will not be compensated for the additional hunter days.

Potential complications

As with any response of this nature, unpredicted circumstances are likely to arise. While this plan attempts to prepare for many of those, some could result in a level of situational complexity that will require widespread attention by department staff. For instance, if in our efforts to determine prevalence, the IRA expands dramatically by finding more positives, say from approximately 314 square miles (one positive = 10-mile radius IRA) to 3,000 square miles (10 positives depending on where they're found) the logistical complexity of our response will increase dramatically. This plan allows for that increased complexity by providing clear direction on requirements for estimating disease prevalence and guidelines for trying to contain the disease within the IRA. Additionally, though we understand that more complex scenarios will increase involvement with the public, stakeholders and the media, our communication plan can expand appropriately. Furthermore, FWP recognizes that with complexity comes additional requirements of staff, and cooperation from FWP employees from across the state will be vital. Because this plan is adaptive, FWP will make prudent management decisions based on the circumstances of each situation.

CWD in special buck/bull management hunting districts

Some hunting districts in Montana are managed for older buck mule deer where a hunter must possess a permit that is used in combination with a regular license to harvest an antlered buck. There are currently 38 hunting districts managed with one of two kinds of permits: an unlimited permit, which is guaranteed to the hunter if he/she applies for it, or a limited permit, which is awarded to successful applicants through a random lottery draw. There are similar opportunities for elk. Some of these, especially the limited permits, are highly coveted and drawing odds are very low.

Special buck management districts pose additional issues for CWD management if CWD is found there. First, it is known that older bucks are the most likely to become infected with and spread CWD. Second, instituting a Special CWD Hunt to determine prevalence and distribution, and any long-term change in management is likely to meet with opposition from some hunters and outfitters. Yet, if CWD is detected in a special buck management district it is just as important to address it as in any other district, perhaps more important because of the increased likelihood of older bucks acting as vectors to other areas. It will be important that FWP increase its efforts at public education regarding the risks involved with an unmanaged CWD-infected herd.

If CWD is found in either an unlimited or limited-permit special buck/bull management hunting district (e.g. HDs 270, 380 or 530), an IRA and TRZ would be established but a Special CWD Hunt would not take place until after the general season so that permit holders could still use their permit. Permit holders would be notified and required to submit harvested animals for CWD sampling within the TRZ. Once CWD is detected in these types of districts, regardless of prevalence, FWP would propose an antlered-buck or either-sex mule deer season for the district.

Step 5 – Evaluate results of Phase I

The first sampling efforts through the Special CWD Hunt will inform us about the prevalence and distribution of CWD within the Initial Response Area. Prevalence will be reported for all cervids by species, sex and age class. Depending on what is learned, we may have to increase the geographic size of the IRA and continue with Initial Response Phase I efforts. If other positives are detected more than five miles from the index case, FWP will evaluate and has the option of expanding the initial IRA based on regional FWP staff input. Depending on what is known about animal habitat use and movements, it may be desirable to radio-collar an appropriate sample of animals to better determine seasonal movements and distribution. Long-term tracking of these animals may help to estimate transmission rates. If satisfied with Initial Response results, we will proceed to Phase II.

Phase II: Long-term Management Plan

Long-term management in CWD-positive areas will be designed to reduce or maintain prevalence below 5% and limit distribution. A program designed to reduce density and/or modify age or sex structure may be necessary. Even if prevalence is below 5%, FWP will initiate CWD management to keep prevalence low and help prevent disease spread.

A monitoring strategy will be developed to detect the spread of CWD and track CWD prevalence over time among susceptible cervid species in the infected area. This may entail annual or periodic surveillance, depending on available resources, surveillance needs elsewhere in the state, and objectives related to assessing management success. As in the initial response effort, prevalence will be tracked primarily using samples collected from hunter-harvested animals. Road-kills and symptomatic animals will also contribute to the monitoring of the distribution of the disease. Sample collection may entail the use of “head barrels” where hunters can deposit heads of harvested animals, increased sampling at area game check stations, or other means as determined necessary by the CWD Action Team.

A “one size fits all” approach to CWD management is not possible given the diversity of habitats where cervids exist. FWP personnel and local stakeholder or constituent groups may develop herd or population plans tailored specifically to circumstances, populations, or areas at a hunting district or larger scale. FWP will cooperate with neighboring states/provinces on CWD management as outlined in the Western Association of Fish and Wildlife Association (WAFWA)

(2017) guidelines. Depending on what would be covered in a herd plan, it may be necessary to seek Commission approval. Management actions may consist of one or more of the following alternatives, or may be unique alternatives that have not been included in this list:

- Increased harvest, especially of antlered deer. This could manifest as expanded opportunity for all age/sex classes.
- Hot spot culling/targeted removal in limited areas around CWD detections.
- Reducing cervid aggregations within the management zone by removing or fencing highly localized attractants, hazing, dispersal hunts or by other means.
- Transport restrictions. FWP would work with processors and taxidermists to help enforce these restrictions.
- Additional methods developed and proven effective in other states and provinces.
- Experimental approaches with scientific research designs and a commitment to monitor effectiveness.

Preemptive management in hunting districts adjacent to CWD-positive areas

FWP may choose to preemptively manage for CWD in hunting districts adjacent to CWD-positive areas.

Evaluation of program efficacy

If a CWD management plan has been developed, completed and approved for a specific herd or population, a monitoring program may be conducted as deemed necessary post-detection to assess management efficacy. Depending on existing CWD prevalence and management goals, this may entail securing additional funding for more intensive surveillance or research.

Communication and Educational Outreach

The *Public Information Plan for Chronic Wasting Disease in Montana* (Chapter 4) is intended to guide Montana Fish, Wildlife, and Parks' communication about CWD in Montana. It includes key messages to various audiences, including the general public, hunters, stake holders, landowners and other state agencies; communication techniques that will be used; timing of strategies; overall communication objectives, and personnel responsible for executing each piece of the plan.

We must inform the public about the seriousness of CWD and bolster support for proposed agency action. We must also plan for the effective communication of Montana Fish, Wildlife, and Parks' response to CWD. An efficient response will depend greatly on our efforts at communication with key audiences.

After any action, such as surveillance or a Special CWD Hunt, FWP will follow up with a report summarizing actions via all venues of public information. The purpose is to close the current 'chapter' of CWD management for the IRA/TRZ and set the stage for future actions

Sample size calculations for measuring CWD prevalence

Upon any new CWD detection, FWP will define an IRA and coordinate a special hunt to measure the prevalence and distribution of the disease. We want to ensure that we measure prevalence with a high level of precision while accounting for the estimated cervid population size within the IRA. This is a random sampling design, and is not the same as the weighted sampling used during surveillance. Weighted sampling is used only to determine the presence of CWD.

The sample size necessary (n) for estimating the disease prevalence (\hat{p}) in a small finite population of size N with $(1-\alpha)100\%$ confidence and error no larger than ϵ is calculated as:

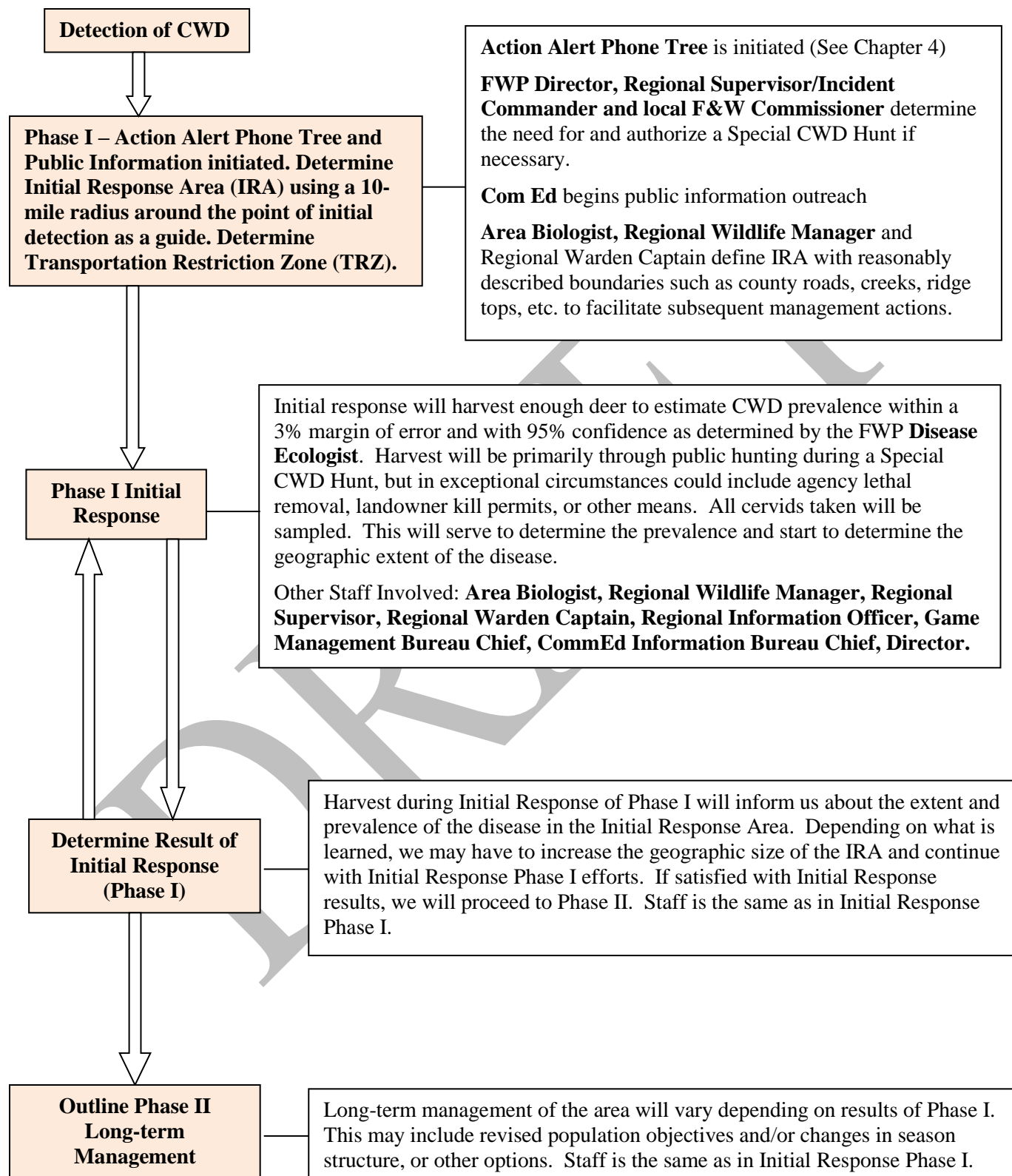
$$n = \frac{m}{1 + \frac{m-1}{N}}$$

where $m = \frac{z_{\alpha/2}^2 \hat{p}(1-\hat{p})}{\epsilon^2}$ is the sample size necessary for estimating the disease prevalence (\hat{p}) for a large population (<https://onlinecourses.science.psu.edu/stat414/node/264>).

Thus, to estimate prevalence with a 3% margin of error ($\epsilon = 0.03$) with 95% confidence ($z_{\alpha/2}^2 = 1.96^2$), assuming prevalence is 5% ($\hat{p} = 0.05$) and the target population size (N) is 1000:

$m = (1.96^2 * 0.05 * 0.95 / (0.03^2)) = 203$ and $n = 203 / (1 + (203-1)/1000) = 169$
animals needed in our random sample design.

CWD RESPONSE FLOW CHART



CHAPTER 4.

MONTANA CWD PUBLIC INFORMATION PLAN

This public information plan is intended to guide FWP's communication efforts for CWD surveillance and our response to new detections of CWD in places where it hasn't been found in Montana. It includes key messages targeting various audiences such as the general public, hunters, stake holders and other state agencies, as well as communication techniques that will be used, timing of strategies, overall communication objectives, and personnel responsible for executing each piece of the plan.

Communication Problem

Montanans and those interested in hunting big game have shown a huge interest in learning more about CWD following the initial positive test results. However, they may not yet understand the full potential impact CWD poses to the state's wild ungulate populations. Unmanaged, CWD could cause population declines of $\geq 40\%$, as have been seen in other states (see pg. 3 *Biology, distribution, and population impacts*). CWD generates enormous interest from national and statewide media, from citizens concerned about public health risks, from hunters and conservation groups, landowners and agricultural producers concerned about impacts to wildlife populations and hunting opportunities, and from interest groups affected by specific management actions.

We must inform the public about the seriousness of CWD and get appropriate buy-in on proposed agency actions. We must also plan for the effective communication of FWP response to CWD. An efficient response will depend greatly on our efforts communicating with key audiences.

This public information plan explores two specific areas of focus: general information about CWD and FWP's surveillance, and communication following any new detection. The communication problem for each will be different:

- General information about CWD and FWP's surveillance: The objective for this phase of the plan is to increase awareness about CWD and FWP's surveillance and response plan, while generating support for the plan, as well as prevention and monitoring activities.
- Response to a new detection message: The objective in this phase is to generate awareness and understanding of response, getting buy-in/support from specific groups needed for an effective response (hunters, landowners, businesses, local officials), communicating the logistics of the response and generating/maintaining support from stakeholders/public.

Communication Objective

This public information plan should accomplish the following:

- Increase awareness of CWD and current CWD management strategies amongst targeted audiences.
- Provide clear understanding of surveillance program, goals and accomplishments.
- Increase awareness and understanding of FWP's CWD response plan.
- Increase support for CWD response plan amongst targeted audiences.
- Generate support for response activities so response goals can be more easily met.

Audience

- Governor's Office
- FWP Commission
- FWP staff
- FWP Citizen Advisory Councils
- CWD Citizen Advisory Panel
- CWD Alliance
- State agencies – Dept. of Livestock, State Epidemiologist, State Veterinarian, Dept. of Health, DNRC, Board of Outfitters, Tourism, Department of Environmental Quality, Department of Transportation
- Montana Veterinarian Medical Assoc.
- Federal agencies – U.S. Geological Survey, U.S. Fish & Wildlife Service, BLM, National Park Service, Forest Service, USDA/APHIS, CDC, EPA
- Tribal governments
- Local jurisdictions – county commissions, county health departments, conservation districts, grazing associations, county sanitarian
- Wildlife agencies in neighboring jurisdictions
- Stockgrowers, alternative livestock associations, Ag-related organizations and landowner organizations, Northern International Livestock Exposition, Montana Agriculture Exposition, etc.
- Media – local, statewide newspapers, radio, TV, websites, national magazines, western media (CO, WY, ID, ND, SD, Alberta, Saskatchewan, etc.)
- Legislators
- License agents
- Montana and non-resident hunters
- Commercial meat processors/taxidermists
- Outfitters/MOGA
- Statewide conservation groups and local sportsmen's clubs
- Hunter Ed and Bowhunter Ed instructors
- Universities
- Landfills, waste facilities

Messages

All communication should consider these speaking points when appropriate and necessary:

General information about CWD and FWP's surveillance Speaking Points

- FWP had been monitoring wild cervid populations for nearly 20 years before it was found in hopes of discovering CWD early when it arrives in Montana.
- FWP's deer management to date has generally emphasized hunter opportunity over trophy bucks, which has led to a younger age structure in the buck segment and may have helped keep CWD at bay, because older bucks are the most likely to be infected and to infect other deer. This strategy is consistent with keeping disease prevalence low.
- Surveillance will involve collecting hunter harvested samples from minimum CWD surveillance areas on a three-year rotating basis. Rotating surveillance will continue even if we detect a positive case of CWD.
- FWP staff and leaders have worked diligently to prepare for CWD in wild Montana cervids. Our response plan reflects these efforts and is our best way to control CWD in the immediate cervid population.
- There is no known cure for CWD.
- If left unmanaged:
 - CWD could have long-term dramatic impacts to cervid population numbers, and shift the population towards younger, immature, sub-prime-aged deer.
 - The prevalence of CWD will increase. High prevalence leads to population declines.
 - CWD will lead to the decrease in wildlife related recreational opportunities like hunting and viewing.
 - CWD could spread to other areas and/or other species.
 - Broader negative repercussions could include economic, hunting legacy, predator management, plant community management and hunting interest.
- FWP's initial response to a new CWD detection will be to sample cervids to determine disease prevalence and distribution.
- Initial management actions to determine prevalence and distribution may involve some level of herd reduction, dependent on individual circumstances.
- Determining disease prevalence and distribution is critical to assess risk and prepare for overall disease management.
- FWP's sampling effort will utilize public hunting and will likely include a Special CWD Hunt; however, if enough samples are not obtained by hunters, the agency may explore other options including landowner kill permits and agency sampling.
- FWP will use science to guide decisions when determining specific management decisions, but other factors will also be considered. These will include: landowner cooperation, social acceptance of management decisions, access to animals in need of harvest, hunter willingness to participate, and financial impacts.

- Hunters should never eat meat from an animal that appears sick. Even in a healthy animal the brain, spinal column or lymphatic tissues should not be consumed. CWD has never been proven or suspected to pass from an infected animal to a human. However, the Centers for Disease Control (CDC) and the World Health Organization (WHO) advise against consuming meat from CWD-positive animals. Furthermore, the CDC recommends that hunters strongly consider having their animals tested before eating the meat when hunting in areas where CWD is known to be present.
- Meat from CWD positive animals should be disposed of properly in a landfill, as provided in MCA § 75-10-431 *et seq.*
- In executing our management actions, FWP will work with local law enforcement, state and local governments, landowners and land management agencies.
- Seek alternative funding for surveillance, prevention and management.

Response to a New Detection Speaking Points

- FWP is mobilizing an Incident Command Team to deal with the new discovery of CWD, as per the approved response plan. This team will work closely with local communities, the public and other state and federal agencies.
- An Initial Response Area (IRA) has been established and encompasses the area within roughly 10-miles around where the infected animal was found.
- Specific details about FWP's response include:
 - Specific species, age, sex, geographic area, date and prior level of testing in the area where the infected animal was harvested
 - Herd population numbers and susceptible species in the area.
 - Specific management actions recommended in FWP's Management Plan, with rationale for action stressing need to determine the prevalence and distribution of disease before other long-term management plans are implemented.
 - Accompanying the above, a statement that FWP's management actions aren't meant to eradicate the disease, but rather to estimate prevalence and distribution, reduce prevalence if possible, and halt the spread of CWD. Inaction is not a valid alternative.
- Announcement of public meeting in affected area and in all FWP administrative regions to discuss incident and department responses.
- FWP has created a web site devoted to CWD issues in general and the specific current incident.
- FWP has been looking for the disease, with specific attention to "high-risk areas" and is not surprised at its arrival. Include maps showing distribution of samples collected since 1998.
- Nationwide distribution of CWD and an overview of management responses and outcomes in other states.
- Review of risk of transmission to humans and consumption advisories ("Hunters should never eat meat from an animal that appears sick, and even in a healthy animal, the

nervous and lymphatic tissues should not be consumed.”). Refer to language detailed in FWP’s Chronic Wasting Disease pamphlet.

- Assurance that FWP has contacted the hunter who harvested the positive animal and has waived requirement that meat be consumed.
- Assurance that landowners within a 20-mile radius of where animal was harvested have also been contacted.
- Assurance that FWP is contacting landowners and land-management agencies in affected area, specifically requesting access, where appropriate, to conduct management activities.
- Assurance that FWP has been in contact with the state Department of Livestock (DoL) and the Department of Public Health and Human Services (DPHHS).
- In subsequent seasons, hunters in the IRA may need to submit heads of deer, elk and moose for testing. Results of tests will be expedited and made available to the participating hunters.
- Requirements for disposal of carcass wastes and/or contaminated carcasses, especially from IRA.
- Details on contacting FWP and Health and Human Services (county health departments, regional and statewide phone numbers), plus respected sources of CWD information (web sites, etc.), including Centers for Disease Control, World Health Organization, CWD Alliance, etc.
- Q&A format addressing basic questions of disease and its implications.

Communication Methods, Responsibilities and Timing

Method (Pre-Detection)	Responsible	Timing
News releases on CWD monitoring effort or other newsworthy items (advisory panel meeting, testing efforts, new developments, etc)	CommEd/Regional Info Officers	When necessary
Public meetings with key stakeholder groups at the regional and state level	CommEd/CWD Action Team/Regional Staff	When Necessary
Presentation with regional Citizen Advisory Committees	CWD Action Team and Regional Staff	Pre- and post-detection
FAQs on CWD to include monitoring efforts and information about response plan	Information Bureau Chief	ASAP
Montana Outdoors article on CWD planning and monitoring efforts	Montana Outdoors Editor	ASAP
Social media posts about CWD – specifically tied to events (salvage permits, monitoring events).	Information Bureau Chief	

Public Service Announcements with key CWD messages (hunters look for symptomatic animals, salvage permits, etc.)	Information Bureau Chief	
Method (Post-detection)	Responsible	Timing
Initiate phone tree	Response Team	24 hours from confirm
Develop FAQs on detection and initial response	Information Bureau Chief	24 hours from confirm
Issue news release statewide upon detection confirmation. Attach FAQs*	Information Bureau Chief	24 hours from confirm
Establish CWD information page online with latest information, release and FAQs. Direct public and media to this page.	CommEd Division	24 hours from confirm
Convene news conference at HQ with FWP director, Wildlife Chief, CommEd chief, Incident Commander	Information Bureau Chief	48 hours from confirm
Speaking points to regional information officers	Information Bureau Chief	48 hours from confirm

*All news releases will be done in conjunction with website and social media posts.

ACTION ALERT PHONE TREE TO IMPLEMENT INITIAL RESPONSE TO A NEW DETECTION

- A positive test result is reported to FWP Wildlife Disease Ecologist (Currently Dr. Emily AlMBERG 994-6358), the FWP Wildlife Veterinarian (currently Dr. Jennifer Ramsey 994-5671) or the Montana State Veterinarian (currently Dr. Martin Zaluski 444-2043 or 475-2569 or the after-hours DoL emergency line (444-2976)
- The Disease Ecologist, Wildlife Veterinarian and/or Montana State Veterinarian call FWP Director's Office (444-3186), and Wildlife Division (444-2612)
- Wildlife Division or Director's Office calls FWP Communication and Education Division Administrator (currently Greg Lemon, 444-4038), Information Bureau Chief (currently vacant), Game Management Bureau Chief (currently John Vore 444-3940), Regional Supervisor of affected region, local Fish & Wildlife Commissioner and CWD Action Team chairman (currently John Vore 444-3940)
- FWP Information Bureau Chief, the Information and Education Manager in the affected region and the Incident Commander prepare news release
- FWP Information Bureau Chief contacts Department of Livestock's Assistant Veterinarian (currently Dr. Tahnee Szymanski 444-5214 or 465-4051) or their 24-hour emergency phone service (444-2976), and the Department of Public Health and Human Services 24-

hour emergency public health line (444-0273), which will notify local county health officers, sanitarian, commissioners, etc.

- Enforcement Division contacts hunter and landowner and any other affected state, tribal or county jurisdictions, including other states if a harvested animal has been transported out of state.
- Information Bureau Chief distributes information via email to FWP All.
- CommEd Administrator and Information Bureau Chief contact first-tier media.
- Information Bureau Chief distributes news release and fact sheet to statewide media.

EXAMPLE FAQs, PRESS RELEASE, and LETTERS to RESIDENTS, LANDOWNERS and HUNTERS

Example of General Information about CWD and FWP's surveillance FAQ

Q. What is Chronic Wasting Disease and how do deer, elk and moose contract it?

A. Chronic wasting disease (CWD) is one type of a class of diseases called Transmissible Spongiform Encephalopathies, or TSEs, that infect members of the deer family, including deer, elk, moose, and caribou. TSEs are caused by infectious, mis-folded prion proteins, which cause normal prion proteins throughout a healthy animal's body to mis-fold, resulting in central nervous system damage and eventual death. These prions are found throughout bodily tissues and secretions and are shed into the environment before and after death. When other cervids come in contact with the prions, either from infected live animals or from contaminated environments, they can be infected. The disease is slow acting, degenerative and always fatal. The name comes from the appearance of symptomatic animals, which get very skinny and sick-looking before they die.

Q. How will CWD impact deer and elk herds?

A. If CWD infects enough animals it will probably reduce the herd in the long term. Other states have seen deer populations decline when CWD infects 20 to 40% of a herd. In Wyoming, heavily-infected herds of mule deer declined 21% *per year* and whitetails 10%. Colorado saw a 45% population decline in an infected mule deer herd over 20 years. Clearly, if left unchecked CWD could result in large-scale population declines.

Because the distribution and intensity of CWD infections are variable across a broad landscape, the impacts across the landscape will also be variable. Keeping deer numbers down and dispersed, and reducing buck: doe ratios, may keep the prevalence low and manageable. FWP's focus will be on managing CWD infected areas for prevalence at 5% or lower and preventing spread. This may also mean keeping deer or elk numbers low.

Q. Can humans be infected by CWD?

A. There is no known transmission of CWD to humans. However, the World Health Organization (WHO) and the Centers for Disease Control and Prevention (CDC) recommend not consuming meat from an animal known to be infected with CWD. Furthermore, the CDC recommends that hunters strongly consider having their animals tested before eating the meat when hunting in areas where CWD is known to be present.

Some simple precautions should be taken when field dressing deer, particularly in CWD surveillance areas:

- Wear rubber gloves and eye protection when field dressing game animals.
- Minimize the handling of brain and spinal tissues.
- Wash hands thoroughly after field dressing is completed.
- Wash instruments thoroughly after field dressing is completed. Concentrated (40% solution) household bleach, or hypochlorous acid (HOCl, Briotech Inc.) may be useful in decontaminating instruments if immersed for up to five minutes (Hughson et al. 2016).
- Avoid consuming brain, spinal cord, eyes, spleen, tonsils and lymph nodes of harvested animals.

Q. Is CWD dangerous to pets or livestock?

A. Natural transmission of CWD to pets or livestock outside the cervid family has not been found.

Q. How do you test for CWD?

A. The standard test is to look at an animal's retropharyngeal lymph nodes or brainstem for evidence of CWD. These samples can only be collected from dead animals and are submitted to a certified CWD-testing diagnostic laboratory. Unfortunately, there are no non-invasive CWD tests for live animals. For research purposes, rectal or tonsil biopsies from live animals will work, but these tests are less sensitive and require capture, anesthesia, and minor surgery, making them impractical for widespread surveillance.

Q. How can you tell if an animal has CWD?

A. Animals with CWD cannot be diagnosed based on clinical signs because the signs are unspecific and mild at the beginning of the disease. Diagnosis is therefore made by testing central nervous system and lymph node tissues. Symptoms of infected animals can include emaciation, excessive salivation, lack of muscle coordination, difficulty swallowing, excessive thirst, and excessive urination. Clinically-ill animals may have an exaggerated wide posture, may stagger and carry the head and ears lowered, and often drink a lot of water. However, these symptoms don't appear until the terminal stage of the disease. It is important to remember that infected animals may not have visible symptoms, but can still be shedding infectious prions.

Q. Why should Ranchers and Farmers care about CWD?

A. Hunters are a key tool FWP uses to help ranchers, farmers and other landowners manage the impact of wildlife on their property and to their crops and livestock. If CWD were to increase in prevalence, FWP anticipates some localized decline in hunting interest. Additionally, in many parts of the state property values are tied to existing recreational values. Hunting and wildlife viewing are key components. If CWD was left unmanaged and prevalence were to increase uncontrolled, it may impact property values.

Recent research has shown that plants, including plants used for livestock food, can uptake CWD prions from the soil. If continued research shows that animals can contract CWD by eating infected plants, it could have huge repercussions on the agricultural industry.

Concerns nationally and internationally about CWD transmission through feed may cause states and other countries to restrict the import and sale of such products from CWD-positive areas. Deer and elk protein cannot be used in ruminant livestock feed.

Q. Why should Business owners care about CWD?

A. In Montana, outfitting and hunting make significant contributions to local economies. Across the state deer, elk and antelope hunting brings in about \$400 million. This includes hotels, restaurants and gas stations in big and small communities. We anticipate the possibility that CWD will initially chill interest in deer hunting in the affected area. However, effective management will require participation from hunters and support from communities.

Q. Where does CWD come from?

A. The origin of CWD is unknown. It was discovered in 1967 in mule deer at a research facility in Colorado. Shortly thereafter it was also found in captive mule deer and elk in Ontario, Colorado, and Wyoming. By the 1990s it was discovered in wild white-tailed and mule deer, elk, and moose in Colorado and Wyoming and among captive animals in Saskatchewan, South Dakota, Montana, and Oklahoma. By the early 2000s, CWD was found in the wild in Saskatchewan, Alberta, Illinois, and Wisconsin.

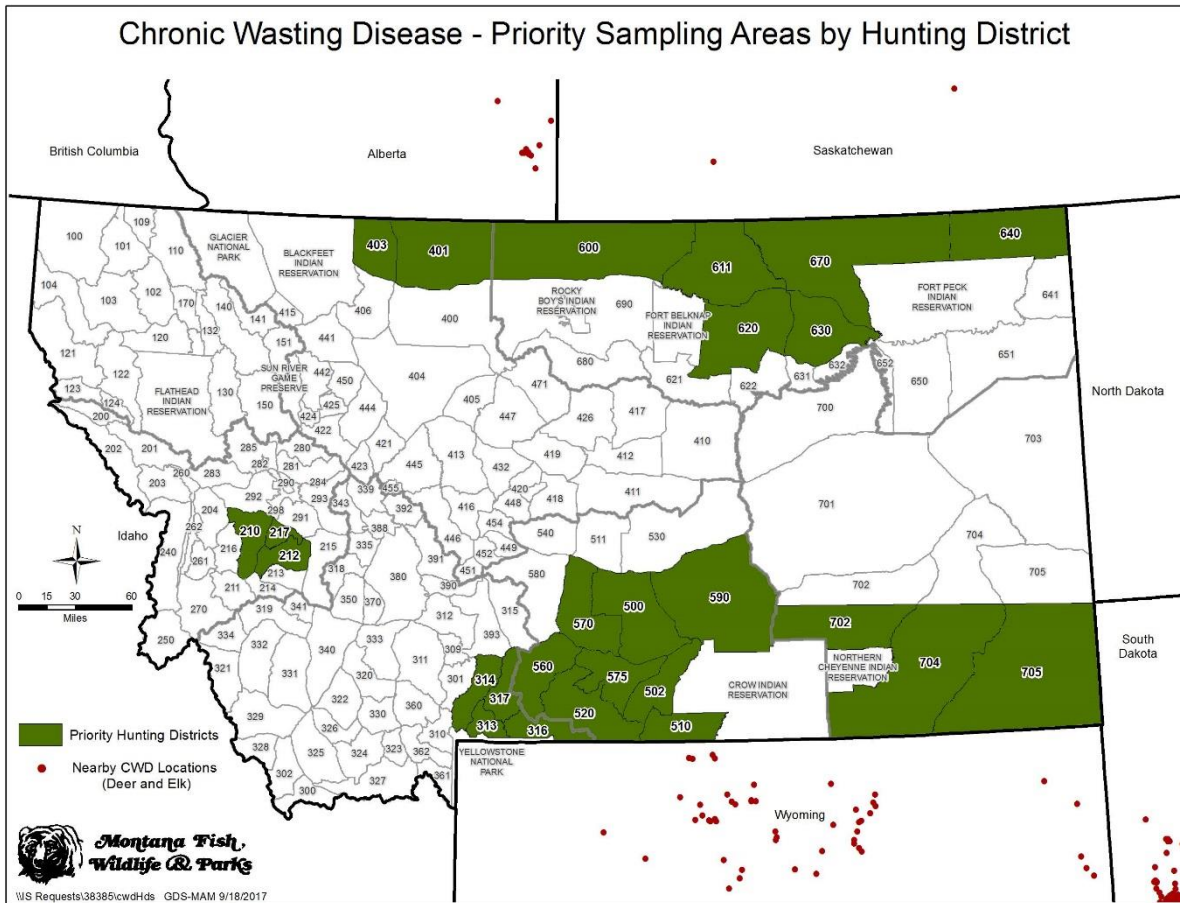
CWD has continued to spread. As of 2017 it is in captive or free-ranging herds in 25 states, three Canadian provinces, Norway, Finland and South Korea. It was first found in wild herds in Montana in October 2017.

Q. Can CWD be eradicated?

A. After decades of CWD management across the country, most agencies and researchers agree that CWD cannot be eradicated once it infects a herd. Eradication is not the goal of FWP. Other states have attempted eradication and set up unreasonable expectations with hunters and the public. FWP's goal is to limit the prevalence and spread of CWD in Montana.

Q. Where is Montana looking for CWD?

A. Montana FWP has identified priority surveillance areas in which we will be focusing our surveillance efforts (see map below). These areas have been identified as those at highest risk of becoming infected through the natural spread of the disease. Since CWD could be spread through the inadvertent or illegal movement of a CWD positive deer or elk carcass into the state, we also plan to periodically survey other areas of the state that fall outside of the high priority surveillance zones.



Example of Response to a New Detection FAQ

Q. Where has CWD been found?

A. CWD was found in a mule deer buck shot in Hunting District (name), (name) county near (town).

Q. What is FWP going to do?

A. FWP will establish an Initial Response Area (IRA) and conduct a Special CWD Hunt to find out more about the prevalence and extent of CWD. Long-term management of the hunting district will depend on what is learned about the prevalence and distribution of the disease during the Special CWD Hunt.

Q. What is an Initial Response Area?

A. The Initial Response Area (IRA) will include a roughly 10-mile radius around where the first CWD infected deer was killed. This area includes both private and public lands. It will be the focus area for a Special CWD Hunt.

Q. What is a Special CWD Hunt?

A. A Special CWD Hunt is a hunt designed to sample enough harvested animals to determine the prevalence and spatial distribution of the disease. It will occur only within the Initial Response Area (IRA) and special rules and regulations will apply. Additional Special CWD Hunt B Licenses will be available to accomplish the desired harvest level. All animals harvested during a special hunt must be brought to a FWP Special CWD Hunt check station for sampling and to be tagged with a tag reading "MTFWP CWD TEST" and a unique identification number. To prevent spread of the disease, brain and spinal column material of animals taken during a Special CWD Hunt will not be allowed out of the county or counties that contain the IRA, an area defined as the Transportation Restriction Zone (TRZ). The Special CWD Hunt will end when enough deer are sampled to precisely measure the prevalence and spatial distribution of the disease, which is estimated to be between 150-200 animals.

Q. What is the Transportation Restriction Zone?

A. The Transport Restriction Zone (TRZ) is one or more counties, or portions of counties, that contain the IRA. To prevent the spread of CWD, no brain or spinal column material from animals taken in the IRA are allowed outside the TRZ. We've identified the TRZ with consideration to game processors, taxidermists, and landfills so that hunters have the option for processing and disposing of animals taken in the IRA. The spinal column may be left in the field at the kill site with landowner permission. Carcass parts that may be taken out of the TRZ include:

- o meat that is cut and wrapped or meat that is removed from the bone;
- o quarters or other portions of meat with no part of the spinal column or head attached;
- o hides with no heads attached;
- o skull plates or antlers with no meat or tissue attached;
- o skulls that have been boiled and cleaned to remove flesh and tissue

Q. Where can I get licenses for the Special CWD Hunt?

A. Licenses will be available online and at FWP Helena and Region headquarters. Special CWD Hunt either-sex and/or antlerless-only Hunt B Licenses only valid within the IRA will be available on a first-come-first-served basis. Hunters are limited to up to seven B Licenses, one or more of which may be for an antlered buck, depending on the number and type of other licenses they already have. Individual hunters may take a maximum of eight deer per year in Montana, including any taken within the IRA. Only in this or another special hunt circumstance can a hunter in Montana harvest more than one buck per year. Establishment and sale of CWD Special Hunt Licenses will be coordinated with FWP's Licensing Bureau.

Q. Do I have to get my deer from a Special CWD Hunt tested?

A. YES! All animals harvested during the Special CWD Hunt must be checked at a FWP Special CWD Hunt Check Station, Regional office, or otherwise within three days. FWP will establish one or more check stations at access points to the IRA to collect samples and aid hunters. Check stations will be open from 10:00 AM to 1 hour after sunset as determined

from sunrise/sunset tables in FWP hunting regulations. These check stations will be operated only as part of the CWD management action and may be staffed by volunteers or people from partner agencies. Hunters will be required to document the exact location of the kill using a GPS or USGS Topographic Map. Sex and age of the animal will be recorded and retropharyngeal lymph nodes, a tooth for aging, and a genetic sample will be collected. Hunters who quarter or bone out their animal must bring the head and meat to the check station.

Q. How long will it take for me to find out if my deer has CWD?

A. Results from CWD testing of animals out of the IRA will be expedited, but it still may take up to three weeks. We recommend obtaining results before consuming meat from deer killed in the IRA. If your harvested deer is found to be positive, you can dispose of the meat appropriately at a landfill, and you may get a replacement license if the season is still open.

Q. Will FWP secure access to private land for hunters during the special CWD hunt?

A. No. The IRA is likely to include private land, but hunters are still required to secure access to hunt on private land.

Example News Release:

CWD found in southeast Montana

A 4-year-old mule deer buck shot 20 miles west of Broadus in October tested positive for Chronic Wasting Disease.

CWD is a transmissible fatal brain disease that only affects deer, elk, moose and caribou. If left unmanaged, it can have long-term negative impacts on herd size and health.

Montana Fish, Wildlife and Parks is mobilizing an Incident Command Team to respond. "We've been preparing for this for almost two decades. That care and preparation will pay off with an effective and well-considered response," said FWP director Martha Williams.

FWP has established an Initial Response Area, or IRA, in Hunting District 704 that includes all land within a 10-mile radius around where the CWD-positive deer was killed.

A Special CWD Hunt will occur only within the IRA beginning December 1. The goal of the hunt is to sample about 200 harvested deer to determine prevalence and distribution of the disease. There are additional rules and regulations for the Special CWD Hunt that apply only within the IRA. Special CWD Hunt Rules, Regulations and Maps are available online at: www.fwp.mt.gov/cwd, at any FWP Region office, and at two Special CWD Hunt Check stations. Check stations are located at the junction of US Hwy 212 and State Hwy 59 three miles northwest of Broadus, and at the junction of US Hwy 212 and the Pumpkin Creek Road 22 miles west of Broadus. The Special CWD Hunt will end when enough deer are sampled to determine the prevalence and spatial distribution of the disease, but no later than February 15.

Three hundred either-sex and 700 antlerless-only Special CWD Hunt mule deer B Licenses only valid within the IRA will be available online and over-the-counter on a first-come-first-served basis. Hunters are limited to one either-sex Special B License and up to six antlerless-only Special B Licenses, depending on the number and type of other licenses they already possess. Individual hunters may take a maximum of eight deer per year in Montana, including any deer taken within the IRA.

All deer harvested within the IRA must be checked at one of the two FWP Special CWD Hunt Check Stations. Every deer harvested within the IRA must be sampled for CWD. This involves biologist taking samples of the deer's retropharyngeal lymph nodes. Test results will be available within three weeks and will be posted on FWP's website.

Brain and spinal columns of deer taken during the hunt will not be allowed to be transported outside of Powder River County, which has been declared a Transport Restriction Zone (TRZ). The spinal column may be left in the field at the kill site. Carcass parts that may be removed from Powder River County include:

- meat that is cut and wrapped or meat that is removed from the bone
- quarters or other portions of meat with no part of the spinal column or head attached
- hides with no heads attached
- skull plates or antlers with no meat or tissue attached
- skulls that have been boiled and cleaned to remove flesh and tissue

CWD is not known to infect humans. However, the World Health Organization recommends not consuming meat from CWD positive animals. Hunters are advised to have their animals tested before eating the meat when hunting in areas where CWD is known to be present.

Some simple precautions should be taken when field dressing deer in the IRA:

- Wear rubber gloves and eye protection when field dressing game animals.
- Minimize the handling of brain and spinal tissues.
- Wash hands thoroughly after field dressing is completed.
- Wash instruments thoroughly after field dressing is completed. Concentrated (40% solution) household bleach, or hypochlorous acid (HOCl, Briotech Inc.) may be useful in decontaminating instruments if immersed for up to five minutes (Hughson et al. 2016).
- Avoid consuming brain, spinal cord, eyes, spleen, tonsils and lymph nodes of harvested animals.

FWP has set up a special website for CWD information. This will include any public notices, hunt information and maps – www.fwp.mt.gov/cwd.

A public meeting is scheduled for Tuesday night at 7 p.m. at the Broadus High School gym. FWP Incident Command and other staff will be there to answer questions.

Example Letter to Landowners within 20 miles of detection:



Montana Fish, Wildlife, and Parks
1620 East 6th Ave.
Helena, MT 59620
406-444-2535

November 16, 2017

Dear Resident and/or Landowner:

Chronic Wasting Disease (CWD) was recently found in two mule deer bucks taken in Hunting District 510, one about 10 miles southeast of Bridger and the other, a suspected positive awaiting further testing, three miles south of Belfry. CWD is an always-fatal disease of deer, elk and moose that is like mad cow disease in cattle, but it is not known to affect humans or livestock. If left unmanaged so that a large percentage of a deer or elk herd becomes infected, CWD could cause significant population declines in the decades to come. CWD has not been found in the wild in Montana before this, and we at Fish, Wildlife and Parks (FWP) are taking this very seriously. With this letter, we are informing every resident and/or landowner within 20 miles of where the suspect animals were harvested about the detection as well as FWP's probable management actions between now and February 15.

Our next step is to determine the geographic distribution and prevalence (i.e. percent of the herd infected) of disease in the herd. Because there are no good tests for live animals, we need to sample a lot of harvested deer. We will do this using public hunting during a Special CWD Hunt that will take place after the general deer season in an area roughly described as that within a 10-mile radius of where the CWD-positive animals were taken. This will be referred to as the Initial Response Area. Details of that hunt will be forthcoming in newspapers, radio, TV, online, and other sources.

Just like any other hunt that FWP sanctions, a Special CWD Hunt does not grant hunters any access to private land. If you own property within the area that will be later described as the Initial Response Area, you will be contacted again. If this is the case, please consider allowing hunters on your property for this effort.

It is in the best interest of all Montanans to manage CWD, and we sincerely encourage your cooperation. For more information email CWDresponse@mt.gov or contact the FWP Region 5 in office in Billings at 406-247-2940.

Sincerely,

A handwritten signature in black ink that reads "John Vore". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

John Vore
Game Management Bureau Chief

Example Letter to Landowners within the IRA:



Montana Fish, Wildlife, and Parks
1420 East 6th Ave.
Helena, MT 59620
406-444-2535

December 14, 2017

Dear Landowner:

Chronic Wasting Disease (CWD) has been found in mule and white-tailed deer in Carbon County. CWD is an always-fatal disease of deer, elk and moose. It is in the same family of diseases as mad cow disease in cattle, but it is not known to affect humans or livestock. If left unmanaged so that a large percentage of a deer or elk herd becomes infected, CWD could cause significant population declines in the decades to come. CWD has not been found in the wild in Montana before this, and we at Fish, Wildlife and Parks (FWP) are taking this very seriously.

Now that we know CWD is here our next step is to find out what percentage of deer in the area are infected so that we know what we are dealing with. That information will inform future long-term deer management. Because there are no good CWD tests for live deer, we will rely on samples from deer harvested by hunters during a Bridger Special CWD Hunt that will begin on December 15. With this letter, we are informing every landowner who owns 20 or more acres where the hunt will occur about the hunt. The purpose of the hunt is to determine disease prevalence and learn more about its distribution. It is not meant to reduce deer numbers, and will sample about 3-4% of the approximately 5,100 white-tailed and 6,100 mule deer in the area. The hunt will occur only in the area shown on the attached map, which is roughly the area within about 10 miles of where infected deer were harvested during the general deer season. Special regulations and more information about the hunt are on the back of the map. The hunt will end when either 200 deer of each species have been sampled or February 15, whichever comes first.

You might want to share this information with your friends and neighbors who own less than 20 acres in case they might want to harvest deer on their property. Just like any other hunt, this Special CWD Hunt does not grant hunters any access to private land. That will be up to you.

It is in the best interest of all Montanans to manage CWD, and we sincerely encourage your cooperation. For more information email CWDresponse@mt.gov or contact the FWP Region 5 in office in Billings at 406-247-2940.

Sincerely,

A handwritten signature in black ink that reads "John Vore".

John Vore
Game Management Bureau Chief

[Note to readers of the CWD Plan – this letter to landowners within the IRA included the map and accompanying special regulations and information that is included in the hunter letter below]

Example Letter to Hunters:



Montana Fish, Wildlife, and Parks
1620 East 6th Ave.
Helena, MT 59620
406-444-2535

December 8, 2017

Dear Bridger Special CWD Hunt Deer B License Holder:

Thank you for participating in the Bridger Special CWD Hunt. Depending on the type of B License you purchased it is valid only for a mule deer or only for a white-tailed deer, and it may be for either-sex or antlerless only, as specified on the license. The hunt will begin on December 15 and end when the harvest quota of 200 deer of each species is reached or on February 15, whichever comes first. It is possible that the hunt for one species may end before the hunt for the other species.

CWD has been found in deer in Region 5 in Hunting Districts 502 and 510. CWD is an always-fatal disease of deer, elk and moose that is like mad cow disease in cattle, but it is not known to affect humans or livestock. If left unmanaged so that a large percentage of a herd becomes infected, CWD could cause significant population declines in the decades to come. CWD has not been found in the wild in Montana before this, but we at Fish, Wildlife and Parks are taking this very seriously.

Now that we know CWD is here, our next step is to determine the geographic distribution and the percent of the herd that is infected to guide future management. Because there are no good tests for live animals, we need to sample harvested deer. That's where you come in. Special regulations for the hunt are on the back of the attached map. Two important aspects of this special hunt are the Initial Response Area (IRA) and the Transport Restriction Zone (TRZ) described below.

The Initial Response Area (IRA). The Initial Response Area (IRA) is the area around where the infected deer were harvested and is shown and described on the attached map. The IRA is where the Special CWD Hunt will occur, and your license is only valid in the IRA.

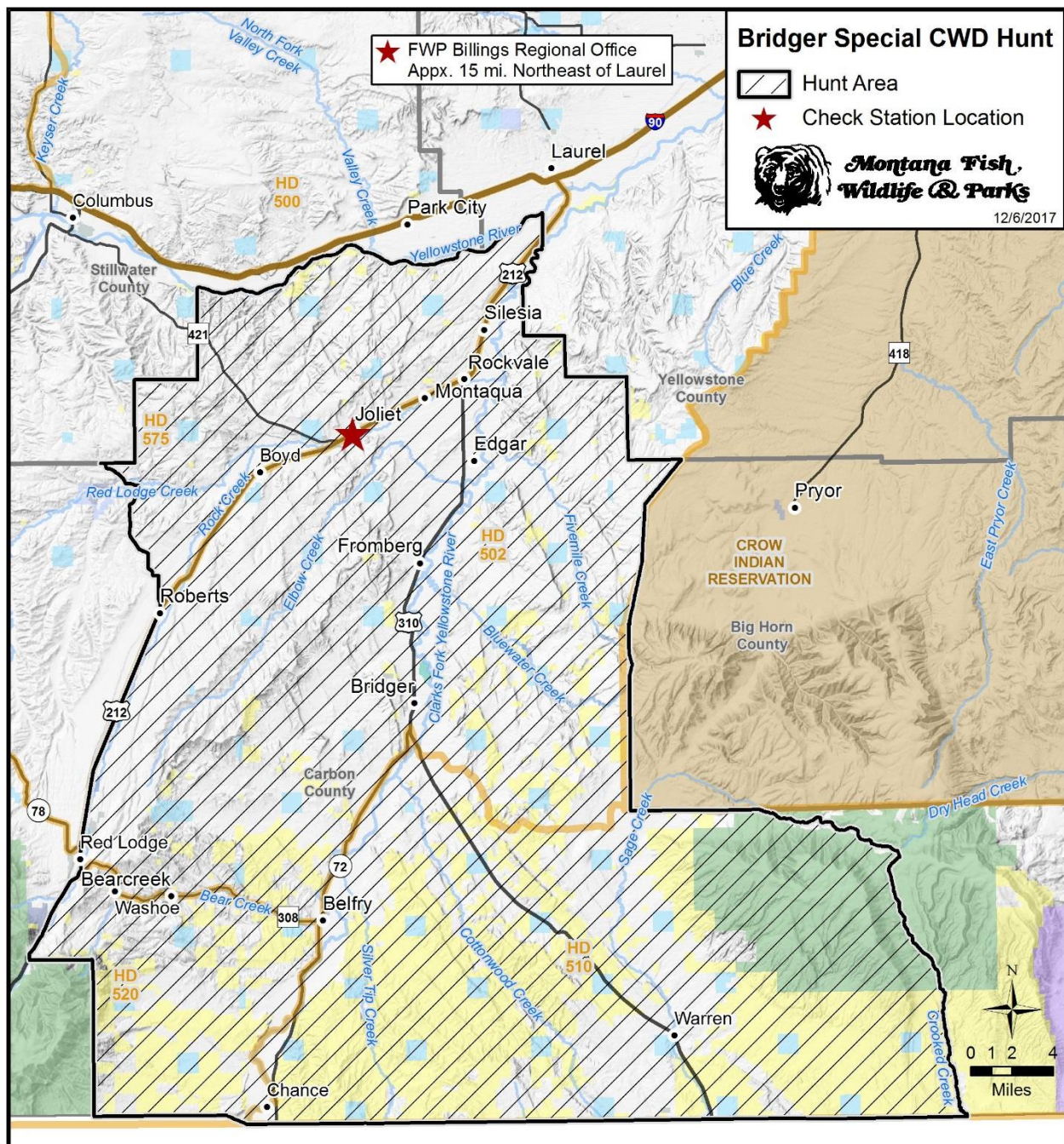
The Transport Restriction Zone (TRZ) – Carbon and Yellowstone Counties. To prevent spread of CWD, whole carcasses or whole heads and/or spinal columns may not be taken out of Carbon or Yellowstone Counties unless the animal has tested negative for CWD. The TRZ is big enough so that hunters have access to meat processors and/or taxidermists.

It is in the best interest of all Montanans to manage CWD, and we sincerely appreciate your cooperation.

Sincerely,

A handwritten signature in black ink, appearing to read "Mike Vore", with a long, sweeping horizontal line extending to the right.

Game Management Bureau Chief



Bridger Special CWD Hunt Area Legal Description (12/15/17 – 2/15/18) – Beginning with the intersection of US Highway 212 and the Roberts-Cooney Road at Roberts, then north on the Roberts-Cooney Road to the Cooney Dam Road, then northwest on said road to the Carbon County line, then east, north, and south on said line to Sage Creek (on the Crow Indian Reservation south boundary), then southeast up said creek to the Sage Creek/Crooked Creek divide, then south down Crooked Creek to the Montana/Wyoming border, then west on said border to Custer/Gallatin National Forest exterior boundary, then north and west on said boundary to US Highway 212, then north on said highway to the Roberts-Cooney Road at Roberts, the point of beginning.

Special Regulations for the Bridger Special CWD Hunt. Violation of these special regulations is punishable under Commission rules and regulations.

- The Bridger Special CWD Hunt will occur only within the defined Initial Response Area (IRA) as shown and described on the map between December 15, 2017 and February 15, 2018.
- The Special CWD Hunt is open to any legal weapon.
- All harvested animals must be checked at the Joliet FWP Special CWD Hunt Check Station, at Region 5 Headquarters in Billings, or as otherwise arranged with FWP staff within three days of harvest. The check station is in Joliet, and will be open from 10:00 to one hour after sunset daily except Christmas, New Years, and Martin Luther King days. Region 5 Headquarters will be open 8AM to 5PM on weekdays, and is located at 2300 Lake Elmo Drive, Billings, Ph. 406-247-2940.
- To prevent the spread of CWD, whole carcasses or whole heads and/or spinal columns may not be taken out of Carbon or Yellowstone Counties (the Transport Restriction Zone or TRZ) unless the animal has tested negative for CWD.
- If you harvest an animal you will be required to document the exact location of the kill using a GPS device, a USGS Topographic Map, or on the map at FWP when you check your animal.
- All deer harvested during the Special CWD Hunt must be sampled for CWD. Species, sex and age of the animal will be recorded and retropharyngeal lymph nodes or the brain stem, a tooth for aging, and a genetic sample will be collected. Hunters who quarter or bone out their animal in the field must bring the head to the check station, regional headquarters or other arranged location for inspection. Deer will be tagged with a plastic tag reading “MTFWP CWD TEST” and a unique identification number.

Further Hunt Information:

- If you check in an animal you will be given a card with the unique identification number so that you can look up test results on the FWP website at: fwp.mt.gov/CWD. Test results are usually available in about 10 days.
- Updates on hunt progress will be available every Tuesday at: fwp.mt.gov/CWD.
- The spinal column may be left in the field at the kill site with landowner permission. Carcass parts that may be removed from the TRZ include:
 - meat that is cut and wrapped or meat that has been separated from the bone.
 - quarters or other portions of meat with no part of the spinal column or head attached
 - hides with no heads attached
 - skull plates or antlers with no meat or tissue attached
 - skulls that have been boiled and cleaned to remove flesh and tissue
- To reduce risk of CWD spread, hunters are strongly encouraged to dispose of hides, bones and trimmings at approved landfills.
- A Special CWD Hunt does not grant hunter access to any private land. Hunters must get landowner permission to hunt on private land.
- The Special CWD Hunt will end once pre-determined goals for sample size and sampling distribution have been met. FWP will publicize the end of the hunt by contacting hunters who purchased licenses and through press releases, social media, the FWP website, radio, TV, and other venues.
- You are encouraged to take precautions, including using gloves and eye protection, minimizing the handling of brain and spinal tissues, washing hands and instruments thoroughly after field dressing an animal, and avoiding the consumption of brain, spinal cord, eyes, spleen, tonsils and lymph nodes of harvested animals.

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